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# Minnesota Medicine

Journal of the Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine and Minneapolis Surgical Society

Volume 35

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# Minnesota Medicine

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## RECENT ADVANCES IN RESEARCH ON RHEUMATIC FEVER

LEWIS THOMAS, M.D.

Minneapolis, Minnesota

AS IN ALL unsolved diseases, we are confronted by three main problems in rheumatic fever. The first is the etiology, which we take to mean the causative agent. The second is the pathogenesis or the mechanism by which the causative agent produces the disease, and the third is the treatment. This paper is concerned with the present state of these problems.

Few diseases have been subjected to such intensive research in so many laboratories all over the world as rheumatic fever. There are two reasons for this. The first is the importance of the disease itself, as a major threat to human welfare. It has been estimated that approximately a quarter of a million people develop rheumatic fever in this country every year.<sup>14</sup> Paul<sup>10</sup> has stated that there are nearly a half million people in America with rheumatic heart disease. In the armed forces it is a formidable problem; approximately 7,500 persons developed the disease each year among military personnel during the last war.<sup>4</sup> It ranks as one of the chief causes of invalidism and death in childhood and early adulthood, and it contributes heavily to the mortality from heart disease in middle age. It is, in short, a major disease.

It is also an extremely complicated disease and the second factor which is a constant stimulus to

research on rheumatic fever is this very complexity. It is difficult to study the disease for any length of time without becoming possessed by the feeling that it contains universals: that if we had answers to the questions that it raises we would understand a great deal about human disease in general. Another human ailment has been called the "Great Imitator." Rheumatic Fever might well be called the "Great Original." All parts of the body participate: it is a disease now of the heart, now the brain or the lungs, the kidney, the skin, the spleen, the peritoneal cavity, or the joints and it involves the blood vessels and connective tissues everywhere. It has for some students the appearance of an infection; to others it seems the result of an infection, and to others a misguided defense reaction against an infection. Its conceivable implications for other human diseases extend in all directions, encompassing conditions as unrelated as disseminated lupus erythematosus, Rocky Mountain spotted fever, malignant hypertension, eclampsia, and glomerulonephritis. It constitutes a working model for the study of all diseases of the vascular tree, perhaps including even the changes which occur in aging.

The causative agent in rheumatic fever is the group A hemolytic streptococcus. There is now quite general agreement on this point, with certain qualifications which will be considered in a moment. The supporting data is impressive. Since the initial observations made by Coburn<sup>2</sup> in this country and by Schlesinger<sup>13</sup> abroad, it has been repeatedly confirmed that rheumatic fever is preceded by group A streptococcal infection, that it is commonly associated with the presence of streptococci in the pharynx, and that it is accompanied

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by the development of antibodies against streptococci in titers which are even higher than those usually seen in proven streptococcal infections. The latter point is illustrated by the data reported by Anderson and his co-workers<sup>1</sup> who studied the comparative levels of several varieties of anti-streptococcal antibody in the sera of patients with scarlet fever. In one group rheumatic fever occurred as a complication of scarlet fever and these patients developed higher levels of antibody than any of the other individuals in which rheumatic fever did not occur. Much has been made of this difference in the degree of antibody response between rheumatic fever patients and individuals with uncomplicated streptococcal infections. Some have proposed that it implies an abnormal reactivity of the antibody-forming mechanism in rheumatic fever, a notion which can be fitted into the popular theory that the disease is in some way a manifestation of hypersensitivity. A somewhat simpler and equally plausible explanation might be that the patient who develops rheumatic fever has had a more extensive streptococcal infection than his non-rheumatic neighbor, and some support for this may be obtained in the serological data reported by Anderson et al.<sup>1</sup> The lowest levels of antibody in their study occurred in a group of patients treated with penicillin in whom the streptococcus was quickly eradicated from the throat. The next lowest were in a group in which a single type of streptococcus was present. Higher levels were present in patients with multiple types of streptococci and in those in whom streptococci persisted in the throat despite penicillin treatment. Similar findings have been described by others.<sup>22</sup> When penicillin is administered early and in adequate amounts, the antibody response is significantly lower than when the infection is allowed to run its full course. If patients with minimal infections, kept at a minimum with penicillin, develop minimal antibody responses, it is reasonable to suggest that patients with maximal antibody responses may have had maximal infections. This might occur without necessarily being reflected by more severe symptoms or signs of streptococcal infection. There is, in fact, no recognizable relationship between the clinical severity of streptococcal infection and the likelihood of occurrence of rheumatic fever. And there are no methods for judging the real severity or the degree of systemic involvement in streptococcal infections in human beings, other than possibly misleading manifesta-

tions such as fever, leukocytosis, or the degree of local discomfort in the throat.

This brings us to one of the great mysteries of rheumatic fever and involves us in the second of our problems, the mechanism of the disease. We have said that the causative agent is the streptococcus, but this requires a serious qualification. At the time when rheumatic fever appears, the clinical manifestations of streptococcal infection have usually subsided completely, and in some instances there is an actual latent period in which the patient looks and feels quite well, between the subsidence of the throat infection and the beginning of rheumatic fever. It is assumed by many that the streptococcal infection has actually disappeared completely before rheumatic fever develops. It is highly inconvenient to propose as an etiologic agent a microorganism which is no longer on the premises when the disease occurs. This is one reason for the currently popular theories in which rheumatic fever is accounted for on the basis of allergy or hypersensitivity. It is possible, however, that we have attached too much significance to the clinical course of the acute streptococcal infection. The disappearance of fever, or the subsidence of pain and swelling in the throat, do not necessarily mean that the streptococcal infection is at an end. Indeed, it is common knowledge that streptococci do persist in the throat for considerable periods after laryngitis or tonsillitis has healed. It is conceivable that the rheumatic fever patient may become more and more deeply involved in streptococcal infection throughout the so-called latent period, and rheumatic fever may represent a continuing streptococcal infection in which the heart, joints, skin, and other tissues are directly damaged by streptococci or the products of streptococci. It is true that streptococcal septicemia cannot be demonstrated in rheumatic fever by blood cultures, but there are two mechanisms in operation which might make it extremely difficult or impossible to demonstrate organisms in the blood. One of these is the presence of a highly effective bactericidal antibody which is uniformly found in the sera of patients with rheumatic fever,<sup>12</sup> and the other is a nonspecific bactericidal substance, demonstrated by Tillett,<sup>15</sup> which appears in the serum of acutely ill patients. Either or both of these agencies could interfere with blood cultures, especially if only occasional showers or very small numbers of streptococci were present in blood. It is also true

## RESEARCH ON RHEUMATIC FEVER—THOMAS

that penicillin has not been shown to alter significantly the course of rheumatic fever, and this has been taken by some as evidence against the idea that the disease is due to a continuing streptococcal infection. However, if the microorganisms were present inside cells in internal organs, as is the case in brucellosis, it might be impossible to eradicate them with penicillin in spite of the high susceptibility of streptococci to this antibiotic.

There is an exceedingly strong piece of evidence concerning streptococcal infection in rheumatic fever which has been ignored or overlooked for many years. In 1939, Green<sup>8</sup> reported his findings in nine fatal cases of rheumatic fever in Edinburgh. In five of the patients streptococci had been cultured from the throat before death, and each strain was typed serologically. At autopsy, the blood cultures were negative in all cases. But Green also made cultures of whole pieces of heart tissue, including the valves, myocardium and pericardium, and he was able to grow group A beta hemolytic streptococci from the valve tissue in eight of the nine patients. Moreover, each strain recovered was shown to be serologically of the same type as previously found in the antemortem throat cultures.

Green's findings would suggest that his patients with fatal rheumatic fever actually had hemolytic streptococci infecting their heart tissues. This is contrary to all current views of the mechanism of the disease, but the only alternative explanation would be that the observations were in some way a mistake or were due to contamination. It is difficult to see how contamination could have occurred in eight out of nine tries, or involved valve tissues without also involving the blood cultures. The suggestion has been made that the streptococci made their way to the heart as an agonal event, but this also seems implausible in view of the negative blood cultures. The work of Green was confirmed in the following year by Collis,<sup>9</sup> at the Rotunda Hospital in Dublin, who cultured forty-two valves from seventeen patients with fatal cases of rheumatic fever and grew hemolytic streptococci from twenty-two of the forty-two. These studies deserve much more attention than they have received.

It is usually assumed that the hemolytic streptococcus is a highly virulent organism which, if it passes local tissue barriers, causes overwhelming systemic invasion, septicemia and death. The

TABLE I. PERSISTENCE OF GROUP A STREPTOCOCCI IN TISSUES OF INTRAVENOUSLY-INFECTED RABBITS

Number of Days with Negative Blood Cultures	Number of Rabbits	Number with Positive Organ Cultures	Organ		
			Heart	Kidney	Liver
4	4	1		1	
5	8	2	1	1	2
7	8	2	1		1
Total	20	5	2	2	3

idea that it may cause systemic infection in a more subtle fashion, or remain dormant in internal organs without giving rise to immediate and violent tissue reactions, is a suggestion which would require much experimental evidence. Studies now in progress in our laboratory have provided some preliminary data to support this suggestion.<sup>21</sup> Twenty rabbits, as a group, were infected by an intravenous injection of living streptococci. Blood cultures were made in each animal every day after infection; these were positive for a few days in all instances and then became negative. After varying periods of time with negative blood cultures the animals were sacrificed, and at autopsy the heart's blood was cultured, as well as whole pieces of the heart, kidney, and liver tissues. The results are shown in Table I. In five of the animals, or 25 per cent, streptococci were recovered from one or more of the organs at a time when the blood cultures had been completely negative for four, five, or seven days. Histological study of the organs showed no lesions to suggest streptococcal infection or tissue damage. This experiment proves nothing about rheumatic fever, but it does show that the hemolytic streptococcus can take up residence in internal organs without the necessity of a coexistent septicemia, and without causing a local tissue reaction to the microorganism.

The most urgent need in research on rheumatic fever is for an experimental model with which the disease can be studied in the laboratory. If it were possible to produce the disease in animals, one could learn much concerning the mechanisms involved in the development of the tissue lesions, and, more important, new therapeutic agents could be tested in an experimental manner which is out of the question in human patients. Numerous attempts have been made by many workers, with varying degrees of success, but to date no one has actually duplicated the cardinal pathological feature of rheumatic fever, which is the Aschoff body. One approach which has been

intensively studied is based on the assumption that rheumatic fever is a manifestation of hypersensitivity, because of the latent period between the streptococcal infection and the disease. Using this approach, Rich and colleagues<sup>11</sup> have shown that serum sickness in the rabbit, following intravenous injections of very large quantities of foreign protein, is accompanied by vascular lesions in the heart and other organs which resemble the human lesion of periarteritis nodosa. But, despite the pathological relationship between periarteritis nodosa and rheumatic fever, this animal disease is not rheumatic fever. Other workers have attempted to reproduce the disease by producing streptococcal infections in animals. The most nearly successful results were obtained by Murphy and Swift,<sup>9</sup> who gave repeated injections of group A hemolytic streptococci to rabbits over periods of many months. In a few of their animals myocardial lesions with some of the attributes of rheumatic carditis were encountered. In our laboratory, numerous attempts have been made to produce carditis in rabbits by streptococcal infection. With streptococci alone, regardless of the extent or number of infections, our results have been negative. Recently, on the assumption that some additional stimulus superimposed on streptococcal infection may be required to produce the disease, a series of experiments involving the generalized Schwartzman reaction<sup>10,18</sup> have been undertaken. The latter is a curious, unexplained phenomenon which occurs when rabbits are given two successive intravenous injections of bacterial endotoxins derived from Gram-negative microorganisms, and it consists of hemorrhagic necrotizing lesions in many organs, particularly the kidney in which bilateral cortical necrosis characteristically occurs. The mechanism of the reaction is not known, but it appears to involve damage to circulating polymorphonuclear leukocytes and occlusion of small blood vessels by eosinophilic material which resembles fibrinoid. We have found that a systemic streptococcal infection is a highly effective method for preparing animals for the generalized Schwartzman reaction. When rabbits were given an intravenous injection of living group A hemolytic streptococci, and this was followed two or more days later by an intravenous injection of meningococcal toxin, an overwhelming reaction of hemorrhage and necrosis occurred in many internal organs, most conspicuously the heart and the kidneys. The

renal lesion is that of bilateral cortical necrosis, and its underlying basis is believed to be the occlusion of the glomerular capillaries by homogeneous, eosinophilic material which, histologically, is similar to fibrinoid. Rabbits which remained alive for several days after this two-stage experiment showed extensive myocardial inflammatory lesions, with necrosis of myofibers, infiltration by mononuclear cells in the vicinity of blood vessels, and fragmentation of the ground substance. Some of the cardiac lesions have closely resembled human Aschoff bodies.

The basic lesion in rheumatic fever, as in disseminated lupus erythematosus, involves the blood vessels, and what we are seeking in our experimental model is a lesion which involves vessels with some degree of selectivity. The cardiac lesions just described involved a much greater destruction of myofibers than is commonly seen in rheumatic carditis. However, when the effects of various dosages of streptococci and toxin were studied in rabbits, it was found that a rather narrow dosage range existed within which a new type of cardiac lesion occurred in a high proportion of animals. The results will be described in detail in a separate report.<sup>19</sup> In brief, necrotizing lesions occurred in the walls of the medium-sized vessels, with swelling of the wall, distortion and rounding of the cells in the media, and remarkable depositions of pink fibrinoid material within the wall. In addition, fragmentation of the ground substance occurred in the connective tissue surrounding the vessels, with infiltration by owl-eyed cells.

We feel that this may be a satisfactory model for the study of rheumatic fever and we propose to use it for this purpose. The vascular lesions have occurred in the majority of animals and have caused death within two or three days, so that the experiments can be easily adapted to the survey of potential therapeutic agents.

Which brings us to the third and final problem in this discussion, the treatment of rheumatic fever.

First, since they are the agents receiving the most conspicuous attention in both medical and lay publications, what is the present status of cortisone and ACTH in the treatment of rheumatic fever? A fairly large number of patients have now been treated with these hormones, in numerous medical centers throughout the country, and an elaborate co-operative study which



involves several groups of workers in the United States, Canada, and England is now in progress. Although the final answer is not yet at hand there are some points about which there is already general agreement. First of all, there is no question but that cortisone and ACTH produce a dramatic beneficial effect on the painful manifestations of acute rheumatic fever. The joint symptoms, fever, and malaise disappear within a day or so after treatment is started in almost all instances. There is some question, however, as to whether this effect is significantly different from that which occurs with salicylate treatment. According to Houser and his co-workers,<sup>6</sup> who have compared the effects of aspirin, cortisone and ACTH in adequate numbers of young adults with acute rheumatic fever, aspirin is actually more effective against general symptoms than either cortisone or ACTH. The most important question concerns the effect on the cardiac manifestations of the disease, and it is the general feeling that several years of observation will be required before a definitive answer can be given. However, on the basis of reports that have been published by several groups of workers, it seems most probable that rheumatic disease of the heart is not cured by ACTH or cortisone, and indeed it is questionable whether these materials have any significant effect on the final outcome of rheumatic carditis, as far as valvular heart disease is concerned. To quote McEwen,<sup>7</sup> who has described the results obtained at Bellevue Hospital in New York, "it is probable that ACTH and cortisone do not affect the underlying causative mechanism of rheumatic fever, in spite of the fact that they so strikingly affect certain symptoms."

Until a final answer is available, it is suggested that the hormones be used only in selected cases of rheumatic fever in which the severe manifestations of the disease are not controllable by salicylates. They should not be used as routine therapy. On the wards of the Heart Hospital we have been using ACTH or cortisone only when we are entirely unable to control the disease by other measures, and it is my impression that we have not yet altered the outcome of carditis in any of our more severely ill patients who have received hormone therapy.

There are good reasons for restricting the use of cortisone and ACTH to carefully selected patients. It should be emphasized that these substances, despite the beneficial effects which they

can produce, may under certain circumstances create important hazards. One of these circumstances has been shown to exist in infection. In experimental animals, treatment with cortisone or ACTH brings about a marked increase in susceptibility to infection by a variety of bacteria and viruses.<sup>17</sup> This effect is illustrated by experiments conducted in our laboratory two years ago in which the effect of cortisone on infection by group A hemolytic streptococci was studied in rabbits. It was found that a streptococcal infection, which is an extremely mild affair for normal rabbits, results in overwhelming septicemia and death in animals which have been treated for several days with cortisone.<sup>8</sup>

In addition to the enhanced susceptibility to infection by living microorganisms which is produced by cortisone, we have also shown that treated animals become extremely vulnerable to the lethal effects of certain bacterial endotoxins in doses which are innocuous in normal, untreated animals.<sup>20</sup> Whether these events have any counterpart in human disease is not known, but until more information becomes available it would seem prudent to limit the clinical use of the hormones to those diseases in which important beneficial effects are *known* to occur, and in which infection either does not exist or is kept under control by concurrent antibiotic therapy.

The most important item in the treatment of rheumatic fever is concerned with the streptococcus. In most children the first episode of rheumatic fever is a relatively benign affair and the incidence of disabling heart disease after a single attack is very low. The patients who get into serious trouble are those in whom repeated attacks occur, year after year; these are the individuals who become cardiac cripples. Repeated attacks of rheumatic fever are always the result of repeated streptococcal infections, and if infection can be prevented rheumatic fever can be prevented. This fact is agreed upon by virtually all students of this disease. Thus we have at hand a therapeutic possibility which is of far greater importance than the salicylates, cortisone, ACTH or anything else that may be applied once rheumatic fever has begun. The disease can be prevented, provided that certain stern conditions are accepted. Any child who has had one attack of rheumatic fever must be regarded as a rheumatic child. If he develops a new streptococcal infection, his chances of developing another attack of

rheumatic fever have been shown to be at least 25 per cent, as compared with an incidence of about 3 per cent in normal children. And with each new rheumatic attack, his susceptibility to additional attacks becomes increasingly enhanced. In order to prevent streptococcal infections in such children, it is necessary to administer prophylactic sulfonamide or penicillin, daily, the year round, throughout childhood and into adolescence. This means, for some children, five or even ten years of daily prophylactic medication. The financial and social difficulties involved in such a regimen are obvious. Nevertheless, at the present time, this is the only effective method for dealing with the problem of rheumatic fever. In the rheumatic fever clinic at the Heart Hospital, we are using oral penicillin for prophylaxis, and all of our pediatric patients who have had one episode of rheumatic fever are now receiving two to three hundred thousand units of penicillin by mouth every day.

If this kind of prophylactic treatment is impossible, and under some circumstances it may be, there is one other thing that we can do to prevent rheumatic fever. Denny and his co-workers,<sup>4</sup> at the Fort Warren Air Force Laboratory in Wyoming, have shown that it is possible to prevent rheumatic fever by the early and energetic treatment of streptococcal respiratory infections with penicillin. This method is not entirely satisfactory because of the difficulties which are sometimes involved in making the diagnosis of streptococcal infection early enough in the course of pharyngitis or tonsillitis. Nevertheless, if the rheumatic child is closely observed for early manifestations of respiratory infection, and large doses of penicillin are begun as soon as the diagnosis is suspected, it is possible that many attacks of rheumatic fever can be prevented.

This in our opinion is the most significant recent therapeutic advance that has been made in the rheumatic fever problem, and it is of the utmost practical importance. There may be little that we can do about rheumatic carditis once it has occurred, but we can prevent streptococcal infection and therefore we can prevent rheumatic heart disease.

### Bibliography

1. Anderson, H. C.; Kunkel, H. G., and McCarty, M.: Quantitative antistreptokinase studies in patients infected with Group A hemolytic streptococci; comparison with serum antistreptolysin and gamma globulin levels with special reference to occurrence of rheumatic fever. *J. Clin. Invest.*, 27:425, 1948.
2. Coburn, A. F.: The factor of infection in the rheumatic state. Baltimore: Williams and Wilkins Co., 1931.
3. Collis, W. R. F.: Bacteriology of rheumatic fever. *Lancet*, 237:817, 1939.
4. Denny, F. W., Jr.; Wannamaker, L. W.; Brink, W. R.; Rammelkamp, C. H., Jr., and Custer, E. A.: Prevention of rheumatic fever; treatment of preceding streptococcal infection. *J.A.M.A.*, 143:151, 1950.
5. Green, C. A.: Researches into aetiology of acute rheumatism; rheumatic carditis: post-mortem investigation of nine consecutive cases. *Ann. Rheumatic Dis.*, 1:86, 1939.
6. Houser, H. B.: In *Rheumatic Fever, A Symposium*, edited by L. Thomas, p. 298. Minneapolis: University of Minnesota Press, 1952.
7. McEwen, C.: The treatment of rheumatic fever with cortisone and ACTH. *Bull. St. Francis Sanatorium*, 9:1, 1952.
8. Mogabgab, W. J., and Thomas, L.: The effects of cortisone on bacterial infection. Group A hemolytic streptococcal infection in rabbits. *J. Lab. & Clin. Med.*, 39:271 (Feb.), 1952.
9. Murphy, G. E., and Swift, H. F.: Induction of cardiac lesions, closely resembling those of rheumatic fever, in rabbits following repeated skin infections with Group A streptococci. *J. Exp. Med.*, 89:687, 1949.
10. Paul, J. R.: *The Epidemiology of Rheumatic Fever and Some of Its Public Health Aspects*. New York: Metropolitan Life Insurance Co., 1943.
11. Rich, A. R., and Gregory, J. E.: Experimental evidence that lesions with basic characteristics of rheumatic carditis can result from anaphylactic hypersensitivity. *Bull. Johns Hopkins Hosp.*, 73:239, 1943.
12. Rothbard, S.: Bacteriostatic effect of human sera on Group A streptococci; type specific antibodies in sera of patients convalescing from Group A streptococcal pharyngitis. *J. Exp. Med.*, 82:93, 1945.
13. Schlesinger, B.: The relationship of throat infection to acute rheumatism in childhood. *Arch. Dis. Childhood*, 5:411, 1930.
14. Swift, H. F.: Rheumatic fever, In Cecil, R. L.: *A Textbook of Medicine*, p. 168. Philadelphia: W. B. Saunders Co., 1947.
15. Tillett, W. S., and Francis, T.: Serological reactions in pneumonia with non-protein somatic fraction of pneumococcus. *J. Exp. Med.*, 52:561, 1903.
16. Thomas, L.: The production of cardiac lesions resembling acute rheumatic carditis by streptococcal infection and a modification of the Schwartzman reaction. *J. Lab. & Clin. Med.*, 38:955, 1951.
17. Thomas, L.: Infectious diseases (The Effects of Cortisone and Adrenocorticotrophic Hormone on Infection). *Ann. Rev. Med.*, 3:1, 1952.
18. Thomas, L.; Denny, F. W., and Floyd, J.: Carditis in the generalized Schwartzman reaction produced with Group A streptococci. *Federation Proc.*, 11:484, 1952.
19. Thomas, L.; Denny, F. W., and Floyd, J.: To be published.
20. Thomas, L., and Good, R. A.: The effects of cortisone on the Schwartzman reaction. The production of lesions resembling the dermal and generalized Schwartzman reaction by a single injection of bacterial toxin in cortisone-treated rabbits. *J. Exp. Med.*, 95:409-428, 1952.
21. Unpublished observations.
22. Wannamaker, L. W.; Rammelkamp, C. H. Jr.; Denny, F. W.; Brink, W. R.; Houser, H. B.; Hahn, E. O., and Dingle, H. H.: Prophylaxis of acute rheumatic fever by treatment of the preceding streptococcal infection with various amounts of depo penicillin. *Am. J. Med.*, 10:673, 1951.



## THE CHANGING PROBLEM OF TUBERCULOSIS IN A CITY CLINIC

### Review of a Twenty-five-Year Program

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IN THIS PAPER I shall try to give in a summarizing fashion the tuberculosis experience of an outpatient clinic in a poor section of a large Atlantic seaboard city over the last twenty-five years. Such an account may possibly be of interest for comparison of its data with figures for the rest of the country, and particularly, I would hope, with the experience of your own community. The picture that I present may help to dispel the notion growing in some parts of the country that tuberculosis is no longer a grave public health problem.

#### Tuberculosis in Philadelphia

The city is Philadelphia and the outpatient clinic is that of the Henry Phipps Institute of the University of Pennsylvania. Philadelphia is not unique with respect to tuberculosis among the large cities of this country. It has the same type of dropping death rate as the rest of the nation, but the decline has taken place along a slope much higher in altitude than is the case in your own section of the United States. Our death rate from tuberculosis at present is about eight times yours. Approximately 700 deaths from tuberculosis occur annually in this city, which has a population of a little over two million, made up of 82 per cent white and 18 per cent non-white residents. Six thousand cases of active tuberculosis and 13,000 cases of supposedly inactive tuberculosis are listed in the city records. The validity of such high figures in relation to known deaths from the disease may be open to question; I can only say that various case finding programs have long been in operation and the figures are from the city's official records.

The City of Philadelphia is divided into districts for the public health care of tuberculosis. Each of these has a tuberculosis clinic with a part time medical and full-time public health nursing staff, whose primary objectives are the discovery

of new cases of tuberculosis, referral of discovered cases to proper institutions for their treatment, and follow-up supervision of patients and their contacts in their homes.

#### Outpatient Clinic of Henry Phipps Institute

The Henry Phipps Institute, although a voluntary organization, operates one of these district clinics. In passing, special mention might be made of this rather unusual arrangement. At relatively small cost to the city this private organization has assumed part of the city's load, fulfilling exactly the same responsibilities as the other city tuberculosis clinics, but carrying out its task with funds secured for the most part from other than official sources. This seeming generosity is motivated by the sincere desire to promote progress in tuberculosis control and learn facts on the epidemiology and prevention of tuberculosis through academic methods not practical in the routine operation of an ordinary municipal clinic.

The outpatient clinic of the Institute is supported by (1) a designated share of the Institute's endowment, (2) a substantial grant from the Community Chest of Philadelphia, (3) the full co-operation of the Philadelphia Tuberculosis and Health Association and (4) a subvention in terms of personnel from the city itself, derived in turn from state aid funds from the federal Public Health Service. It has a staff of ten full time or part time physicians and twenty full time public health nurses.

The outpatient clinic of the Institute is in essence a case finding organization, with well organized machinery for family supervision. Some 3,200 families are on its rolls for active supervision. Approximately 5,200 home visits a year are made by its public health nurses, and about 15,000 visits at the Institute are made annually by the Institute's patients.

Within the large group of persons visiting the Institute each year for observation or care a not inconsiderable number of new cases of tuberculosis are discovered. Diagnosis is effected by the usual methods of symptomatic and contact history, physical and x-ray examination and lab-

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oratory studies. All active cases found are reported promptly to the City Health Department. Cases of undetermined activity are followed up at regular intervals in the effort to classify them

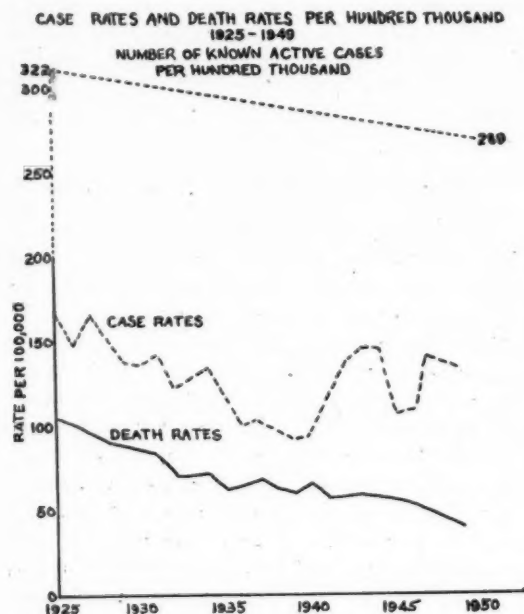


Fig. 1. Tuberculosis case and death rates in Philadelphia.

as active or inactive. Active cases are referred in so far as possible, according to their type, to the city's general hospital or the tuberculosis hospitals of the State of Pennsylvania.

Unfortunately under present circumstances referral of cases has become theoretical rather than actual. For many months the city and state hospitals for tuberculosis have been filled to capacity and the city is left with a large and growing waiting list of patients gravely in need of hospital care. The shortage of beds is particularly acute in the case of males. About 450 persons, seven-eighths of whom are men, are waiting for a hospital or sanatorium bed in Philadelphia at the present time.

A curious anomaly exists in the fact that it is still possible to force patients into hospitals for the care of their disease. Like a number of other cities of this country Philadelphia has legislation for the compulsory isolation of recalcitrant tuberculosis patients who are proven to be a menace, from the point of view of contagion, to the community.

TABLE I. INCIDENCE OF TUBERCULIN REACTION IN PHILADELPHIA SCHOOL CHILDREN

Year	Per cent Positive (First Dose)	
	At 6 years	At 16 years
1928	25.0	52.7
1948	4.2	16.4

Figures from Board of Education.

### Philadelphia Tuberculosis Mortality and Infection Rates

The death rate from tuberculosis has dropped steadily over a period of many years. Figure 1 illustrates the drop in mortality rate for the second quarter of the twentieth century, which is the period here reviewed. The figure also shows the annual new case rate which, although it has fluctuated notably in recent years, probably as a result of varying opportunity and intensity of effort in case finding, has on the whole declined. It will be noted that the known total active case rate decreased only slightly from 322 to 289 per hundred thousand population.

For comparison it is of interest to note a dropping infection rate as shown by the results of the tuberculin test in school children in two representative years twenty years apart (Table I).

### Twenty-five Years' Experience in Epidemiology of Tuberculosis

This brings me to a more detailed consideration of the experience of the chest clinic of the Henry Phipps Institute. The district controlled from the point of view of tuberculosis by the Institute is comprised of a segment of southeast Philadelphia and a smaller area in the southern part of north Philadelphia, with a total population of approximately 200,000 persons. The district in the Institute's charge has not been exactly the same over the total period of twenty-five years which we are considering, so that the figures I shall furnish do not have the full statistical value we would wish for comparative purposes. They are fully representative simply of the experience of the Institute itself. They are of value, even for comparative purposes, however, as an indication of the operation of a typical, well organized case finding agency, devoted to its task over a period of a quarter of a century, making full use of all the methods, techniques and new equipment that have become available within that length of time.

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TABLE II.  
NEW PATIENTS WITH ACTIVE TUBERCULOSIS  
Henry Phipps Institute 1926-50

Period	M. White F.		M. Negro F.		Total
1926-30	219	127	86	106	538
1931-35	119	112	125	104	460
1936-40	98	66	221	202	587
1941-45	147	65	242	187	641
1946-50	115	57	241	235	648

TABLE III.  
NEW PATIENTS WITH ACTIVE TUBERCULOSIS  
Henry Phipps Institute 1935-50

Year	White	Negro
1935	91	78
1940	71	110
1945	55	101
1950	41	138

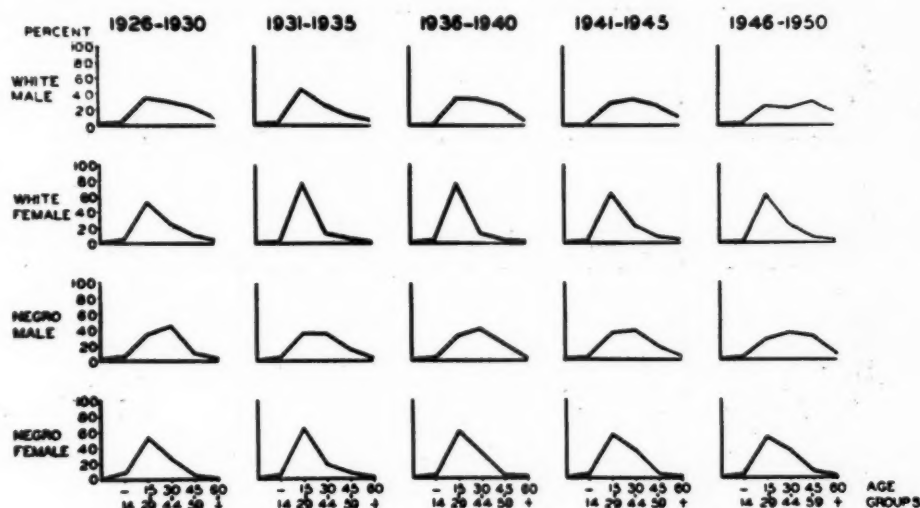


Fig. 2. Percentage of active tuberculosis at diagnosis by sex and race in five-year periods by age groups.

Since the size and character of the district have not changed profoundly they have some statistical value as well.

At this point I shall say that the figures I give are rough ones within the limitations to which I have referred. More nearly exact calculations are being made at the present time of certain large blocks of census tracts within the total district, which, it is hoped, will yield data of full comparative statistical significance.

Table II summarizes the discovery of new cases at the Institute by case and sex for the period 1926-50. It will be noted that a significant decline has taken place in the twenty-five year period in the number of new cases in whites, while a notable rise has occurred in the number of Negro cases, and that the total number of new cases discovered in each five-year period has generally increased. Table III is added to give an easy view of the trend in whites and Negroes by individual years from 1935 to 1950. The table speaks for itself. It is an illuminating and

I believe characteristic, illustration of the changing complexion of an outpatient tuberculosis clinic in an underprivileged area of a typical large eastern city.

The figures on which the tables are based represent a combination of effort by the clinical and public health nursing staffs of the Institute. The great majority of the all-important final diagnoses for the total period were made by Dr. H. W. Hetherington, Chief of the Chest Clinic.

For our immediate purposes we should note that the tuberculosis load in a tuberculosis clinic of this city, whatever may be the reason for it, is as large today as it was twenty-five years ago. Many questions come to mind in seeking an explanation of this fact at a time when the tuberculosis mortality rate is unmistakably dropping. Is there an actual increase in the number of cases, or is the apparent increase simply a reflection of better case finding? Are we dealing simply with an accumulation of cases, dependent on better case finding and longer life in the cases discov-

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ered? Is the high rate to be explained chiefly on the basis of an increase in the percentage of non-whites in the population?

In the attempt to find an answer to these ques-

evident when the total cases are separated into minimal and advanced (i.e., moderately and far advanced combined). Again the curves are essentially of the same character throughout for

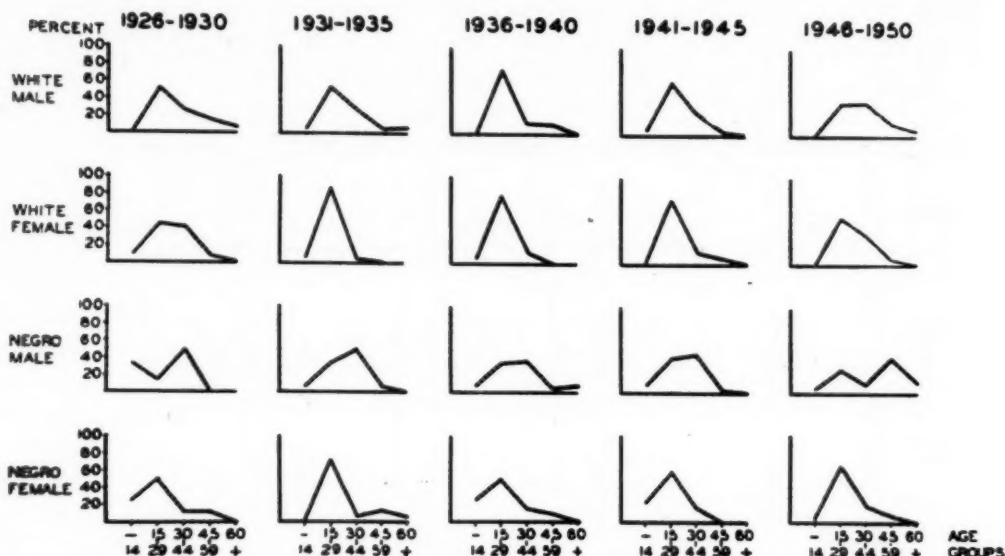


Fig. 3. Percentage of active tuberculosis in minimal stage at diagnosis by sex and race in five-year periods by age groups.

tions it will be of value to make certain breakdowns of the gross data, particularly on the basis of sex, color, age and stage of advancement of the disease at the time of discovery.

Figure 2 summarizes the percentages of active tuberculosis by sex, race and age, in five-year periods for the quarter century under consideration. It will be seen that percentage-wise no significant change has occurred in the distribution of cases by age at discovery in the female sex, although, as I have already indicated (Table III) the actual number of cases in white females decreased greatly.

In males, on the other hand, a significant change has occurred. In both white and Negro males the curve of age at discovery has tended to flatten with removal of a peak in early life and establishment of a plateau in later life. This finding is quite in accord with the well known phenomenon of increase in the average age at death from tuberculosis in the male population.

Figures 3 and 4 illustrate the same problem from the point of view of stage of disease at the time of discovery. No startling differences are

females, and again the curves for males have changed from a characteristic early peak to a late plateau. The curves for advanced cases are essentially the same as for all cases combined, for the simple reason that the majority of cases discovered have always been in the advanced stage.

The fact that the percentage of cases discovered in the minimal stage has not increased significantly in the last twenty-five years is, needless to say, a cause for profound disappointment. It might have been expected that much better results could have been secured with twenty-five years of improvement in procedures for case finding. The objective facts are summarized for convenience of examination and economy of space in Figure 5, in which a comparison is made of the first with the second half of the twenty-five-year period. In brief the figure shows that (1) the total number of cases has gone down in both male and female whites and risen in both male and female Negroes and (2) that the percentage of cases discovered in the minimal stage did not vary profoundly in the four sex-color groups in the two halves of the total period. Perhaps there is some significance in the fact that

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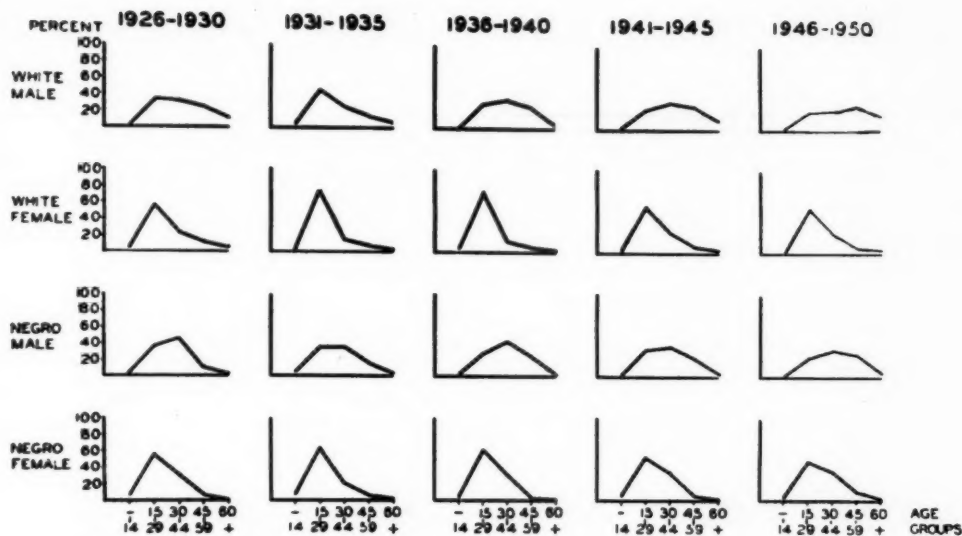


Fig. 4. Percentage of active tuberculosis in moderately and far advanced stages at diagnosis by sex and race in five-year periods by age groups.

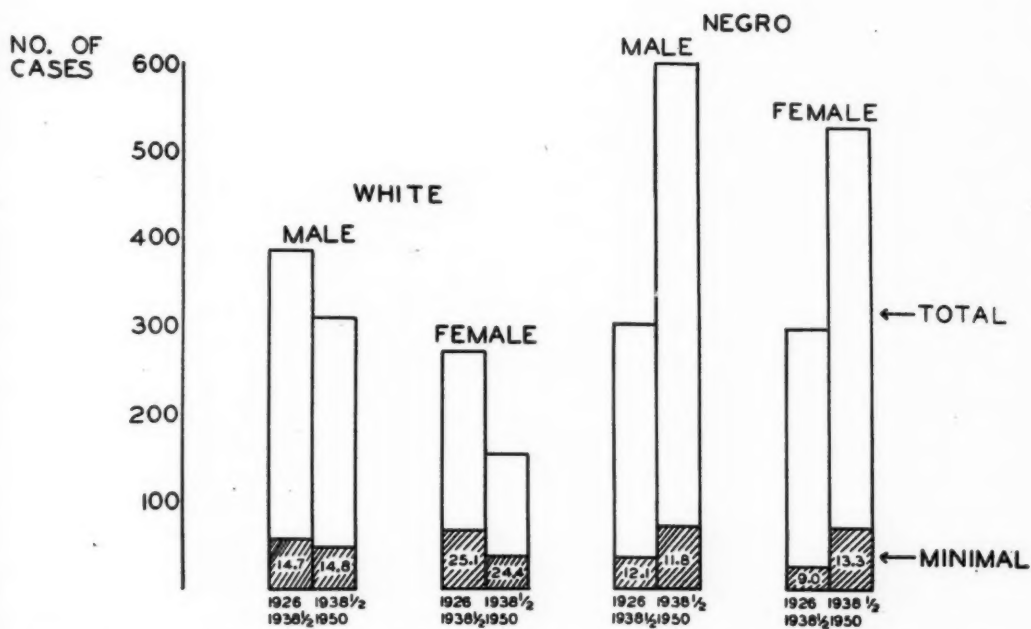


Fig. 5. Percentage of active tuberculosis by stages at diagnosis by sex and race in twelve-and-one-half-year periods.



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a relatively high, although still actually disappointing low, percentage of minimal cases was found in white females.

Why more cases are not discovered in the mini-

As a side point, the fluctuation in percentage of patients with respect to length of residence in the state is of considerable interest. Those skilled in the study of migrations on the basis of eco-

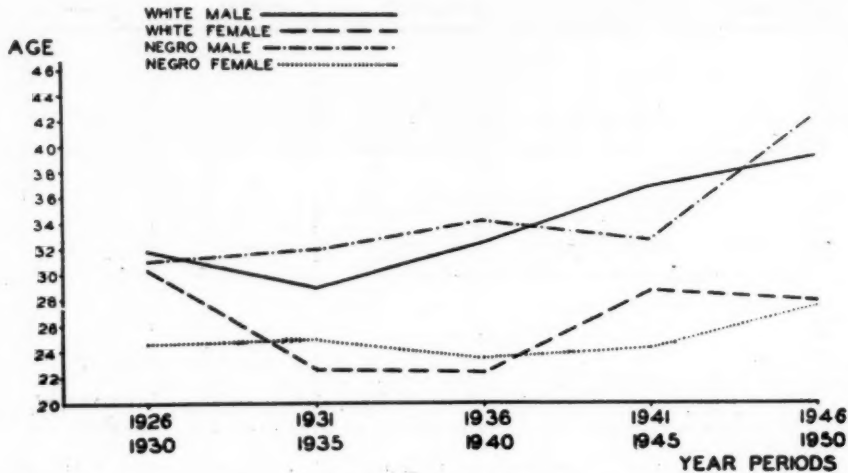


Fig. 6. Median age at diagnosis of active tuberculosis by sex and race in five-year periods.

mal stage is an unsolved problem, in the face of which we can only bow our heads in shame. It was thought that some light might be thrown on the question by a study of the median age at diagnosis. Facts of some significance were indeed discovered. Figure 6 shows that the median age at diagnosis has risen slowly through the years in males, but not significantly in females. This fact is perhaps merely another facet of the picture exposed in Figures 4-6.

It was hoped for a time that a study of origins of the population with respect to residence in the area would be illuminating. It might be supposed that the population in which the disease developed had come to the district relatively recently and brought their disease with them. The facts do not seem to bear this supposition out. Figures are available at present only for residence in the state, not for residence in the district, but these figures, which are accurate as far as they go, do not suggest that recent immigration of Negroes from the South is the explanation of the problem. Figure 7 shows that only 5 to 10 per cent of the white persons and 12 to 22 per cent of the Negroes who were found to have tuberculosis had lived in the State of Pennsylvania less than five years.

economic conditions will probably be able to demonstrate correlations between the figures and opportunities for employment, in the two race groups, with special reference to depression and war time conditions and the general phenomena of industrial activity.

## Home Treatment—Substitute Measure in Bed Shortage

Obviously the data brought before you for consideration are disturbing in their general import. The system is not working well if we have a right to expect a steady decline in the total number of cases in the neighborhood and an increase in the percentage of cases discovered in the minimal, curable stage. We deplore the facts, while not being able to explain them satisfactorily. In the face of the serious bed shortage certain practical measures have to be taken to prevent a bad situation from becoming worse. Every method that can be brought to bear through public health nursing education in families of low economic state in tenement homes in the effort to prevent spread of infection, is made. Under the conditions the results are far from satisfactory. The fact remains that some hundreds of patients with positive sputum, who should be



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in tuberculosis hospitals, are at home not getting better themselves and exposing others at the same time.

You will not be surprised to learn that under

we are all familiar in hospital and sanatorium practice has not occurred. In the majority of cases the patients' tubercle bacilli have become resistant to streptomycin, and progression of the

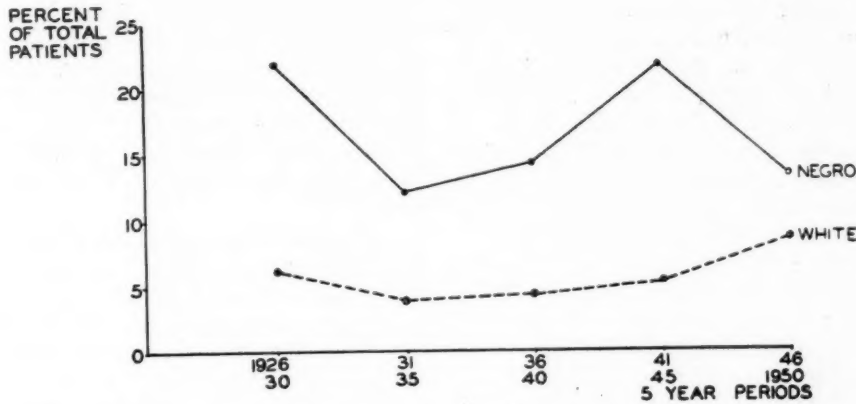


Fig. 7. Percentage of total Henry Phipps Institute white and Negro patients with active tuberculosis residing in Pennsylvania five years or less when diagnosed.

the circumstances we have turned to chemotherapy as a measure of possible value in the control of the disease in the homes. We have done this in spite of a firm conviction that the drug treatment of tuberculosis is carried out most effectively in hospitals, and least effectively on a home basis under the conditions of training in the type of population for which we are responsible.

In practice, cases are brought up for consideration at medical staff conferences, and a regimen of 1 gm. of streptomycin twice a week and 12 gms. of para-aminosalicylic acid daily is prescribed for cases considered suitable for chemotherapy. Patients who are judged to be semi-ambulant come to the Institute for their streptomycin injections. Those who are too sick receive the streptomycin treatment from our public health nurses in their homes. Each patient is responsible for his own administration of para-aminosalicylic acid, which is furnished by the Institute in adequate amount for a period ahead. Both drugs, I may say in passing, are provided to the Institute through the interest and generosity of Merck and Company, who are anxious to determine if they are effective under the existing conditions.

I am sorry to say that in general the results have been disappointing. In about three quarters of the cases the type of improvement with which

disease after temporary improvement has been common.

We believe that failure to take the prescribed para-aminosalicylic acid, which occurs even under sharp scrutiny in hospitals, is partly responsible for the poor results. But probably no single explanation applies. Failure to observe prescribed rest hours is perhaps equally important. In the generally improper, unhygienic conditions prevailing, streptomycin and para-aminosalicylic acid have proved relatively feeble weapons.

This brings me to another question that I was asked to discuss briefly. That is the possibilities for a more successful chemotherapy of tuberculosis with the newly reported drugs of the isonicotinic acid series. The manner of announcement of these drugs, which proved beyond the control of those most concerned in their study, was unfortunate, particularly as it raised exaggerated hopes of the potency of the drugs in the minds of many very sick patients. After the first hysterical outburst, to which even the most conservative elements of the public press contributed, scientific investigators in increasing numbers developed a broad program of investigation which has had all the benefits of the several years of study of streptomycin and its effects, proper dose regimens and general usage.

So much has been said about these drugs that

there is no point in my digressing further here as to their origin in the course of current investigations or their chemical composition. It is worth while to point out that in laboratory and animal studies they have proved to have a bacteriostatic power for the tubercle bacillus comparable to and possibly even superior, to that of streptomycin. In man they have been shown to have remarkable efficacy in relieving symptoms in pulmonary tuberculosis and arresting the one time inexorable advance of miliary tuberculosis and tuberculous meningitis. It is too early yet to make definite statements on their ability to arrest the various forms of pulmonary tuberculosis.

It is almost universally agreed that they effect no miracles, that they will not do away with the need for tuberculosis hospitals, or, in the foreseeable future at least, materially lessen the period of hospital treatment required for the kind of pulmonary tuberculosis that the bulk of our patients have. They represent undeniably a great step forward, and their value may increase as we know more of effective dosages, and useful combinations with other drugs. Possibly they will prove of value in the problems I have just described. Present indications, however, indicate that they are only new tools, like streptomycin and practical surgery, and that the fundamental principles of hospital care and improvement in environmental conditions will continue to apply in solving the tuberculosis problems in benighted areas of big cities.

### Summary

1. Philadelphia, like other large cities of this country, has experienced a dropping tuberculosis mortality rate, but has a persistently high prevalence of known cases of the disease.

2. Large outpatient tuberculosis clinics in such cities, as exemplified in the Chest Clinic of the Henry Phipps Institute of the University of Pennsylvania, have as many patients with active

tuberculosis on their rolls today as twenty-five years ago.

3. Certain qualitative changes have taken place, however, in the group character of the patients on the rolls. At the Henry Phipps Institute clinic, which is believed typical of well organized city chest clinics in the big cities of the Atlantic seaboard, the number of white patients has decreased sharply, while the number of Negro patients has increased correspondingly. White males outnumber white females two to one, while the number of Negro patients in the two sexes is equal.

4. In spite of a growing intensity in case finding measures the majority of cases discovered are in an advanced stage. About 15 per cent of cases are discovered in the minimal stage in white males, 25 per cent in white females, and 10-15 per cent in both male and female Negroes.

5. The median age at discovery has gone up in males, both white and non-white, from thirty-two to forty years during the second twenty-five-year-period of the twentieth century, but the median age at discovery in females, in both races, has remained stable during this period at about twenty-six years. It is remarkable that there is a sex, but not a race difference in this respect.

6. The current large accumulation of cases in the region comprised in this investigation is not due to immigration or other known variable factors. Rather, it seems due to a persistence of those environmental conditions which throughout the years have favored the development of tuberculosis in underprivileged areas. A prevailing shortage of beds for the care of tuberculosis is an important factor in the continuation of tuberculosis as a public health problem. The use of chemotherapy on an outpatient basis has not proved a satisfactory substitute for the now generally approved principles of hospital care for tuberculous patients.

*7th and Lombard Streets*

Tuberculosis continues to exert a greater influence upon the health and welfare of mankind than does perhaps any other infectious disease. It is a disease which frequently occurs during the early adult years of life and significantly during the economically productive years. Tuberculosis affects not only the patient as an individual but also influences the patient's entire family. The

future activities and the social progress of the patient and his family are frequently altered, sometimes for better and sometimes for worse. As a truly clinical disease, tuberculosis continues to be one of the most frequently missed diagnoses.—JAMES M. BLAKE, M.D., *New York State Journal of Medicine*, Feb. 1, 1952.

## THE TREATMENT OF THROMBOPHLEBITIS

FREDERICK M. OWENS, JR., M.D.

Saint Paul, Minnesota

The clotting of the blood is an essential physiological process without which man cannot long survive. In its absence the slightest injury resulting in hemorrhage permits bleeding to continue until the individual is exsanguinated. It is, therefore, a paradox that more human beings over the age of fifty die as a result of intravascular clot formation than from any other single pathological mechanism."

UPON this note Marple and Wright<sup>5</sup> have opened the introduction to their new book on thromboembolic conditions. With the same note we may enter into today's discussion of the treatment of thrombophlebitis.

The present day concepts of blood coagulation differ little from those held for many years but repetition of these is worthwhile. Four general factors seem to be paramount. The first is altered coagulability of the blood. This mechanism is not well understood but undoubtedly has to do with chemical changes in the blood affecting the formation of thrombin and fibrin. The second factor is increased agglutinability or adhesiveness of platelets. Studies done in my laboratory using the technique of Wright<sup>6</sup> reveals a definite increased agglutinability of platelets in thrombotic disease. Others have confirmed these findings. The third factor is change in the rate of blood flow. Slowing of blood flow allows the platelets and white cells to accumulate at the periphery of the blood stream where they occupy a position ideal for immediate agglutination should the other factors combine to create a favorable situation. The fourth factor consists of changes in the character and integrity of the vessel wall. Such changes can be found in the rough intima of the atherosclerotic artery or the torn intima of an injured vein. No one factor plays a predominant role, but the interaction of these four factors can be pointed to as the basis of intravascular clotting.

Thus in thrombophlebitis the early pathologic changes consist of obstruction of a vein by a thrombus with accretion of thrombus to fill other parts of the vein. At any time during this pro-

cess of clot development a fragment may be dislodged and pass to the lungs causing serious sequelae.

Within a few hours of the onset of clot formation there begins a process of organization by which the clot becomes fixed to the vein wall and fibroblastic reconversion takes place. Ultimately there is recanalization of the vein as organization of the thrombus becomes complete. However these new channels when formed in the legs are unsatisfactory channels for they are devoid of valves to prevent reflux of blood in the venous system.

Venograms demonstrate very well the poor venous channels which form after thrombosis has occurred. These inadequate veins are responsible for the changes of stasis which occur after thrombophlebitis has subsided.

The symptoms of acute thrombosis are often not apparent so that pulmonary embolism may occur without obvious warning. In the greatest number of patients there will appear early signs when thrombosis has begun. Pain and tenderness in the popliteal space or the calf of the leg is present in almost all cases. Movement of the part intensifies the pain. Homan's sign (pain in the calf on dorsiflexion of the foot) is a late and unreliable sign. By watching carefully for any sign of pain or tenderness in the calf veins one can diagnose thrombophlebitis in its early stages and gain maximum benefit by early treatment.

Edema is present, but mild in the early stages, so that it is apparent only when careful observation and measurement is carried out. When edema is obvious the disease is well advanced.

Duskiness of the part distal to the clot appears early and is valuable when the color of the two limbs is compared. Dependency will increase the cyanosis on the involved side.

Three small branch veins run across the tibia just below the tuberosity of the tibia and empty into the lesser saphenous vein. Dilatation of these veins may be the first and only sign of thrombosis of the popliteal vein. However, this again is a late sign and the diagnosis should be made before it appears.

The temperature is usually slightly elevated, the pulse is increased, the blood pressure tends to

Read before the annual meeting of the Minnesota State Medical Association, Minneapolis, Minnesota, May 27, 1952.

be low. Pulmonary embolism may be the first sign of thrombophlebitis and in the absence of any other source is a sign diagnostic of thrombosis.

The sequelae of thrombophlebitis fall into two groups, the early and the late effects. The most important early effect is pulmonary embolism. This occurs in about 1 per cent of all surgical cases (Jorpes,<sup>4</sup> Barker,<sup>2</sup> et al). Early mobilization reduced this figure to 0.6 per cent. Zilliacus<sup>10</sup> points out that the frequency of pulmonary embolism in cases of postoperative thrombosis is 50 to 60 per cent and that the mortality of postoperative thromboembolism is 20 per cent. Active treatment has markedly reduced this mortality. Smith and Mulligan<sup>7</sup> have reported that prior to the use of anticoagulant medication the incidence of thromboembolism in women patients undergoing surgery was 1:90 and the incidence of fatal emboli was 1:484. In 2,353 patients treated with dicoumarol the incidence of thromboembolism was 1:138 and the incidence of fatal embolism 1:2353.

The late sequelae consist of the changes of stasis, the so-called post-phlebotic syndrome. As stated above the effects of stasis arise from the fact that thrombosis and recanalization has destroyed the valves of the veins. Reversal of flow and stagnation of poorly oxygenated blood results in pigmentation of the skin, ulceration, dermatitis, edema, varicose veins and pain in the legs. Few conditions are as chronically disabling and as refractory to treatment as the post-phlebotic leg. For this reason alone it is of utmost importance to stop the extension of the thrombosis and treat it actively while it is still confined to small veins. Our policy is to begin treatment, and by this I mean complete treatment, at the mere suspicion of thrombophlebitis.

The treatment of thrombophlebitis has undergone many changes during the past decade without having reached a point where there is complete agreement among the various workers. For instance, Pratt<sup>7</sup> and his group advocate vein ligation as early treatment, Barker<sup>2</sup> and his group use dicoumarol, Jorpes<sup>4</sup> prefers heparin.

Rather than argue the merits of the various methods of treatment let us consider what is practical for most physicians. Omitting vein ligation from the discussion for the time being let us consider the anticoagulants. Heparin and dicoumarol are the only practical anticoagulants available at the present time. Heparin is ex-

pensive and must be given intravenously; dicoumarol is inexpensive and may be given by mouth. Heparin, as we use it, needs no laboratory control; dicoumarol can be used only when skilled laboratory help is available to do daily prothrombin determinations. In most instances where laboratory facilities are meager heparin has a great advantage over dicoumarol.

How is heparin used? Heparin is used intravenously. It may be used by the intermittent or the continuous technique, but the intermittent technique is safer and simpler.

The intermittent technique implies repeated administration at specific intervals such as every four hours or four times a day. In general we use the Swedish technique of giving the heparin at 8 a.m., 12 noon, 4 p.m. and 8 p.m. This is given in doses of 75 mg., 50 mg., 50 mg. and 75 mg. Almost without exception we have found that this regimen allows for relief of pain and beginning subsidence of symptoms within twelve to eighteen hours. This technique has proved to be quite satisfactory although the objection which may be raised is that the anticoagulant effect lasts only four hours, yet there is a long gap at night when no effect of heparin is evident. This is a valid criticism; however it has been found by employing this technique in many thousands of cases that this period does not impair the efficacy of the treatment.

To give heparin by continuous intravenous drip requires almost constant attention and even then is apt to be unreliable for simple change of position of the patient's arm can change the rate of flow enough so that in a short time the clotting time may reach infinity and real danger from bleeding presents itself.

Any bleeding encountered may be controlled by stopping the heparin and administering 5 to 10 cc. of 1 per cent protamine sulfate intravenously.

With the continuous technique the program worked out by Murray and Best<sup>6</sup> seems the most satisfactory. Ten mg. of heparin per 100 cc. saline (or glucose) is given intravenously at the rate of about twenty-five drops a minute. Lee-White clotting times are done every two or three hours making an effort to adjust the rate of flow so that the clotting time runs between fifteen and thirty minutes. The normal clotting time by the Lee-White method is five to eight minutes. Because the technique is cumbersome and time consuming we rarely use it, but prefer the Swedish technique.



## TREATMENT OF THROMBOPHLEBITIS—OWENS

TABLE I.

Prothrombin Per Cent	Time Seconds	Dicoumarol Dose mg.
20	30	100-200
15-20	30-35	50-100
10-15	35-40	25-50
10	40	omit drug 24 hrs.

Repository heparin—i.e., heparin in Pitken's menstruum, depoheparin, et cetera are not used in our hands for we have found that the absorption rate varies so much from person to person as to make the effectiveness quite unpredictable. Despite claims made to the contrary we have found that local reactions are numerous and results are not uniform; therefore we do not use repository heparin.

Dicoumarol therapy must be carried out in an entirely different manner. First of all the effect of dicoumarol is not manifest for twenty-four to forty-eight hours after administration. The drug is given by mouth but careful laboratory control must be effected daily. The patients prothrombin time is determined before administering any dicoumarol and if it is normal, 300 mg. of the drug is given. The following day a determination of the prothrombin time is again done, the dosage of dicoumarol being dictated by the plan outlined in Table I.

This dosage schedule is followed daily while the patient receives the drug.

During the first twenty-four to forty-eight hours of dicoumarol therapy there is no anticoagulant activity; therefore, to carry the patient over this period heparin should be used.

It has been our experience that dicoumarol is not as reliable as heparin in clearing up the signs and symptoms of thrombophlebitis. Extension of thrombophlebitis or pulmonary embolism has been noted with the patient's prothrombin time within therapeutic range. Similarly Wright has reported a number of cases of fatal bleeding when prothrombin levels were within therapeutic range.

Vein ligation has been advocated by Allen,<sup>1</sup> Pratt<sup>7</sup> and others. This consists of ligation of the common femoral vein and aspiration of any clots which may be present. We do not use this technique for it increases the existing stasis in the distal venous bed and contributes to extension of the thrombotic obstruction of the veins. Furthermore it does not afford adequate protection against pulmonary embolism for a large bed of veins in-

TABLE II.

8 a.m.	75 mg.	100 mg.
12 m	50 mg.	75 mg.
4 p.m.	50 mg.	75 mg.
8 p.m.	75 mg.	100 mg.

or

cluding the iliac and pelvic veins remain from which emboli may arise. If there is indication for vein ligation we prefer to ligate the vena cava for this affords complete protection against embolism arising from the pelvic or leg veins. Our indications for vena cava ligation are (1) pulmonary embolism in a patient who for one reason or another cannot be treated with anticoagulants; (2) anticipated surgery in a patient with recent or recurrent thrombophlebitis, and (3) septic pelvic thrombophlebitis. The sequelae from vena cava ligation are few if the patient is treated with anticoagulants in the postoperative period.

Heparin and/or dicoumarol may be used prophylactically in surgical cases. Such treatment has been found to markedly reduce the incidence of thrombosis and of pulmonary embolism. The method of treatment is similar and the results can be found in the work of Barker,<sup>2</sup> Jorpes,<sup>4</sup> Bauer<sup>3</sup> and others.

The social aspects of the application of anticoagulant therapy in thrombosis point up the importance and the economy of early vigorous treatment. About 0.6 per cent of all patients in surgical clinics suffer from thrombosis in the deep veins of the leg or from pulmonary embolism. The length of stay in the hospital used to be prolonged by six to eight weeks if thromboembolic complication occurred. Now with active treatment with heparin the hospital stay is rarely more than ten days and frequently is not prolonged over the normal hospital stay. With the cost of a hospital bed running from ten to twenty dollars a day, it is a real economy to use heparin at the cost of fourteen dollars a day to reduce the hospital stay by a fifth or a sixth. Furthermore in a series of untreated cases of thrombophlebitis originating in the calf 80 per cent spread to the deep veins of the thigh, while in a similar group treated with heparin 80 per cent of the cases remained limited to the calf leaving a normal leg for the future (Jorpes).<sup>4</sup>

Thus to recapitulate our treatment we examine patients daily for evidence of thrombosis and begin treatment upon suspicion of thrombosis. Heparin is given in the doses shown in Table II.

The legs are elevated and hot packs are applied from the toes to the groin and are kept wrapped with hot packs continuously until symptoms subside.

The patient is not allowed out of bed until the tenderness begins to subside; then the legs are wrapped in ace bandages and the patient is ambulated. After the patient has been symptom-free for three days the dose of heparin is decreased to 50 mg. three times a day for two days, then 50 mg. a day until discharge from the hospital.

Patients are instructed to continue wearing elastic bandage support until all swelling has subsided. This may mean three months, six months, six years or the rest of their life, however it is very important to emphasize the fact that they may have to wear the bandages a long time. They should not remove the elastic support until the physician tells them to do so. The bandage is wrapped from the toes to the knees, being applied upon arising in the morning and being removed before retiring in the evening. When the patient sits down in a chair the legs should, if possible, be elevated. It is preferred that the patient lie down with the legs elevated above the level of the heart any time during the day that he can as long as any swelling persists.

Such treatment will diminish the frequency of late varicosities, ulcer, stasic dermatitis, edema and painful leg.

### Summary

1. Early, vigorous treatment of thrombophlebitis reduces complications and protects the patient against late sequelae.
2. Intermittent intravenous administration of heparin is the most practical method of anticoagulant administration for the majority of physicians.

### References

1. Allen, A.; Linton, R., and Donaldson, G. A.: Thrombosis and embolism: review of 202 patients treated by femoral vein interruption. *Ann. Surg.*, 118:728, 1943.
2. Barker, N. W.; Nygaard, K. K.; Walters, W., and Priestley, J. T.: A statistical study of postoperative venous thrombosis and pulmonary embolism. I, II, III, IV. *Proc. Staff Meet., Mayo Clinic*, 15:769-773, 1940; 16:1-5; 17-21 and 33-37, 1941.
3. Bauer, G.: Heparin therapy in acute deep venous thrombosis. *J.A.M.A.*, 131:196, 1946.
4. Jorpes, E.: Heparin in the Treatment of Thrombosis. Second edition. London: Oxford Press, 1946.
5. Marple, C. D., and Wright, I. S.: Thromboembolic Conditions and Their Treatment with Anticoagulants. Springfield, Ill.: Chas. C Thomas, 1950.
6. Murray, D. W. G., and Best, C. H.: Heparin and thrombosis: the present situation. *J.A.M.A.*, 110: 118, 1938.
7. Pratt, G. H.: Surgical Management of Vascular Diseases. Philadelphia: Lee & Febiger, 1949.
8. Smith, G. V. S., and Mulligan, W. J.: Dicoumarol prophylaxis against venous thrombosis in women undergoing surgery. *Surg., Gynec. & Obst.*, 86: 461-464, 1948.
9. Wright, H. P.: The adhesiveness of blood platelets in normal subjects with varying concentrations of anticoagulants. *J. Path. & Bact.*, 53:255-262, 1941.
10. Zilliacus, H.: On the specific treatment of thrombosis and pulmonary embolism with anticoagulants, with particular reference to the post thrombotic sequelae. *Arch. Med. Scand. Supplement*, 171:1-221, 1946.

### GENOCIDE

While the nations of the world paid tribute to U.N.'s seventh anniversary, another voice was heard calling on all peoples to renew their faith in the dignity and worth of the human being. Paul Martin, Vice-Chairman of the Canadian Delegation to the General Assembly, recalled a resolution of a prior Assembly calling on all nations to make the mass killing of human beings for racial or religious reasons a crime punishable under international law. "Man's destruction of man for reasons of wild prejudice and unthinking bigotry must be checked once and for all, and I know of no better starting point than the immediate ratification of the Genocide Convention," said Mr. Martin.

Mr. Martin then reminded the world that one billion

people now agree that the crime of genocide must be wiped off the face of the earth. Forty countries have ratified the United Nations Convention on the Prevention and Punishment of the Crime of Genocide, but they are not enough, said the Canadian delegate—"they must be joined by the other 20 until all sixty U.N. Member Countries are united. . . .

"On humanitarian grounds, mass killing must be stopped internationally lest it destroy the nations themselves. . . . In this present century alone, with only fifty-two years elapsed, 20,000,000 people have already been put to their death through the use of genocide. We must see that the next forty-eight years remain spotlessly clean."—*U.N. Reporter*, November, 1952.



## PHYSICAL MEDICINE IN GENERAL PRACTICE

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**P**HYSICAL Medicine may be defined as that branch of medical science concerned with the use of physical measures in the diagnosis and treatment of disease or injury. As stated by the Council on Physical Medicine of the American Medical Association, this includes the employment of the physical, chemical, and other properties of heat, light, water, electricity, massage, manipulation, exercise, climate, and mechanical devices. Since World War II this field has been expanding rapidly to meet the needs of an ever widening group of patients who need more than the conventional treatment available by the usual methods of medicine and surgery. The emphasis is being shifted from the consideration of only the localized area requiring definitive treatment to a more careful consideration of the requirements of the patient as a whole. For example, in the case of an amputation instead of considering only the type of amputation to be performed, the healing of the wound, and the physical shock to the patient, it is now the duty of the physician or surgeon to consider carefully the necessity or usefulness of a prosthesis, the type of prosthesis to be employed, the strengthening and training of uninjured portions of the body to substitute for functions that would have been performed by the injured or amputated part, to consider the psychological effects of loss of a portion of the body, and to help in planning for the re-training of the individual, if necessary, so that he may be able to earn a living and return to the highest possible level of usefulness in society of which he is capable. In this concept of planning for the total care of the patient, the role of the general practitioner is even more important than it was under the previous concept. Since he is usually the person best acquainted with the patient, his family, his capabilities, and his problems, both physical and social, the general practitioner is usually the man most qualified to advise the patient and the workers who are contributing to the patient's rehabilitation. He sees the patient first and unless he is aware of the entire group of procedures

which may be used in the patient's treatment, valuable time may be lost before these are carried out. In many instances, delay will prolong the patient's convalescence or even make maximal recovery impossible.

### Physical Medicine Fields

Physical medicine is usually divided into four fields of endeavor. All of these, however, must be co-ordinated to accomplish the best results in the patient. These are:

*Use of Physical Agents or Devices for Diagnosis.*—Such procedures include muscle tests for the estimation of muscle strength, the use of electrical currents for diagnosis of nerve injuries and muscle function disturbances, measurement of range of motion and prevocational testing as well as the ordinary diagnostic procedures.

*Physical Therapy.*—This includes the use of heat, light, water, electricity, massage, and exercise in definitive treatment of the process which has caused the disability. It is used to restore the part and the patient to the best possible functional usefulness. For example, after fractures it may be necessary to restore range of motion and strength before useful function can be accomplished. This may be done by the use of such measures as the whirlpool bath followed by massage to get rid of swelling, range of motion exercises to prevent or overcome contractures, and active exercise carefully graded from motions requiring assistance to those where resistance may be employed in order to improve muscle strength so that adequate function is possible. In addition, heavy resistance exercise may be used to prepare other portions of the body for the functions needed. In those cases where crutch walking will be required, the upper extremities must be so strengthened that the patient can lift his entire body weight with the depressors of the shoulder and the triceps so that he may carry out elevation and ambulation using his hands in place of his feet.

*Occupational Therapy.*—Occupational therapy is used for three purposes. First, as functional treatment to increase range of motion and strength

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through activities which can be sustained over a long period of time without the loss of interest which occurs if monotonous repetitive exercises are given. Second, diversional occupational therapy for those patients who need psychologic treatment during long continued hospitalization or convalescence. This is done for the morale of the patient rather than for his physical condition. Third, in those patients where it may be difficult or impossible to tell what occupation he should attempt to learn after a severe disability, occupational therapy can be used as a pre-vocational testing medium to determine whether the patient's physical disabilities will make it impossible for him to carry on certain types of work, whether his skill and intelligence is such that the work can be done, and whether his attention span or endurance are sufficient for that particular occupation.

**Rehabilitation.**—This comprises a hodge-podge of rather unrelated activities directed toward restoring the patient to the highest possible social and economic level consistent with his disability. It includes such things as education, training in braille, lip reading, vocational training, and other special techniques for rehabilitation. The usefulness of a total program of rehabilitation is usually limited to the treatment of such serious disabilities as hemiplegia, paraplegia, severe poliomyelitic paralyses, amputations, cerebral palsy, post-encephalitic disturbances, multiple sclerosis, crippling disabilities following arthritis, and severe accidents. The treatment itself is successfully carried out only in especially equipped centers where trained and experienced personnel is available to solve the many individual problems which arise. In these cases the main function of the general practitioner is to recognize the need for and availability of such treatment and to see to it that his patient receives the best treatment available.

#### Commonly Seen Conditions

Aside from the serious disabilities, there are numerous common conditions seen in the general practitioner's office for which physical types of treatment are effective and practical and in which the treatment can usually be carried out successfully in his office or under his direction.

It would be impossible to discuss all of them because of the length of time required. However, I will list a few of the more important ones

with some of the principles of treatment which I have found to be practical.

1. *Post Fracture Disability.*—If the original reduction of the fracture has been adequate and the fragments have been held in rigid apposition, the development of disability is usually due to fibrosis which follows prolonged swelling. The best treatment for this condition is given in the early stages of recovery before fibrosis has developed. This means that treatment must be started as soon as possible after the injury, immediately, if feasible, or at least within ten days to two weeks following the injury. The main object of treatment is prevention or removal of swelling. The most effective method for doing this is by active exercise. If the apparatus retaining the fracture in position can be so arranged or adjusted that active motion of neighboring joints and reasonably normal use of the extremity is possible throughout the healing period of the fracture, active exercise alone may be sufficient. If this cannot be done, the use of elevation or of heat followed by massage and active exercise may be needed to get rid of the swelling. In the later stages when the fracture is healed and fibrosis and limitation of motion have already developed, more drastic measures are needed. These will include the use of the whirlpool bath followed by massage and exercise, stretching of contractures, resistive exercise to develop strength, occupational therapy in prolonged cases, gait training, and other such procedures.

2. *Shoulder Disabilities.*—The first requirement for successful treatment of these disabilities is an accurate diagnosis of the factors causing the disability. The treatment varies greatly according to the diagnosis. Acute calcified bursitis is best treated by x-ray therapy, if it has not been present long enough for the development of contractures which limit function. Most of these patients will regain range of motion if pain is relieved. However, if the bursitis has been present for a week or two so that contractures have developed which limit motion, then x-ray therapy alone will not restore the part to normalcy. In such cases the use of hot packs with special attention to positioning the hot packs over the pectoralis major, latissimus dorsi, and teres major muscles followed by stretch to the scapulo-humeral joint may be necessary for the restoration

of normal function. In this event it is important to support the scapula so that the force of the stretch does not become exerted upon the scapulothoracic muscles instead of the scapulo-humeral muscles. This may be assisted by such simple exercises as relaxed circumduction, wall crawling, and use of the shoulder-wheel. However, it has been my experience that in those cases that have severe loss of scapulo-humeral motion the patient himself cannot carry out the exercise efficiently enough to restore motion. This same principle holds true in those patients who have limited shoulder motion from other causes such as peri-arthritis, fractures in the shoulder area, shoulder-hand syndrome, et cetera.

Many patients with pain in the shoulder radiating down the arm, particularly when parathesias are present in the fingers without loss of shoulder joint motion, have the source of disability in the cervical spine. It may be the result of a protruded cervical intervertebral disc or of osteoarthritic changes in the spine especially when bony spurs impinge upon the nerve roots as they pass out of the cervical foramina. The ordinary anteroposterior and lateral x-rays of the cervical spine will not show this condition. It is necessary to have oblique x-rays to demonstrate the openings of the foramina. These patients will not respond to treatment given to the shoulder. Most of them will be benefited, however, by the use of heat (I usually prefer shortwave diathermy) to the neck followed by massage for relaxation and then suspension using a Sayre head sling with a pulley suspended from the ceiling. Fifty to seventy-five pounds of pull for only thirty to sixty seconds with the patient in a sitting position repeated daily will often give relief from nagging pain which has been present for years.

3. *Osteoarthritis*.—Many patients with osteoarthritis regardless of location will obtain relief from various physical measures combining heat with massage and carefully graduated exercise. Often a program can be worked out which the patient can use at home over many years. Frequently shortwave diathermy or other more complicated procedures must be used which can be obtained only at the doctor's office. If this is the case the treatments can be given until relief is obtained and then discontinued until a new attack occurs at which time they can be resumed.

4. *Rheumatoid Arthritis*.—In rheumatoid arthritis physical measures are almost a necessity to maintain muscles, connective tissue, and joints in as functional a condition as possible until the acute disease has run its course. The use of cortisone and ACTH has made the use of such measures more effective in the chronic cases. While many practitioners have been disappointed in cortisone as a therapeutic measure in arthritis, because of its temporary nature and the fact that it cannot be continued over long periods of time without serious side effects, it is useful in relieving pain and assisting in the relaxation of muscles and fibrous tissue so that more effective physical therapy can be given to the patient which may in effect move the disease backward in its course so that function may be regained or maintained for longer periods.

5. *Coccygodynia*.—In coccygodynia, relief may be obtained even after many years of pain by the use of Thiele's technique which consists of the combination of heat with intrarectal massage, stroking from the sacrum to the pubis and stretching the tight fibrous and muscular bands which are the real cause of the pain. This has been effective in cases where pain has persisted even after removal of the coccyx.

6. *Backache*.—Of course, backache represents a widespread problem in general practice in which physical measures are useful. Again an accurate diagnosis is a prerequisite to successful therapy. It is not possible to go into an extended discussion of the differential diagnosis of backache. However, a few of the causes may be listed.

1. Protruded intervertebral disc
2. Tears of muscular attachments due to back strain
3. Fracture
4. Spondylolisthesis
5. Osteoarthritis
6. Rheumatoid arthritis
7. Marie-Strumpell spondylitis
8. Specific infectious arthritis including tuberculosis and osteomyelitis
9. Fibrositis
10. Fat herniations
11. Adiposus dolorosa
12. Senile osteoporosis
13. Post-partum osteoporosis
14. Schmorl's nodules
15. Multiple myeloma
16. Postural backache
17. Psychoneurosis

In many of these conditions, physical measures will bring relief. Even in definite disc protrusions, conservative treatment will bring relief in a great majority of the cases and certainly should be given an adequate trial before surgical removal is advised. Many of these patients suffer prolongation of pain because of muscle shortening in the back or hamstrings. This is true especially of the back muscles even after surgical removal of the disc. Hot packs or diathermy followed by careful stretching of the shortened muscles and graduated resistance exercises will often give relief and help prevent recurrence.

Tears of muscular attachments often need similar treatment especially for the relief of muscle spasm.

Fractures present the same problems in the back as elsewhere with the addition that where cord or nerve injury has occurred special rehabilitation may be advisable.

Spondylolisthesis is commonly symptomless until about age forty when the patient's muscular tone and strength has decreased. At this time heavy work or strain may produce symptoms for which an x-ray is taken which reveals spondylolisthesis. Very seldom do these patients need surgical fusion. Symptoms can usually be relieved by heat and massage and the patient can remain comfortable by readjusting his mode of living to avoid strain on his back. When the patient understands the mechanical principles involved he will usually make a good adjustment.

The arthritic conditions follow the same pattern as for the same conditions elsewhere in the body except that when fusion of the spine has become complete the patient will cease to have pain and can then live a normal life if there is no involvement of hips, shoulders or other joints.

Fibrositis requires special mention because prolonged relief requires not only heat and exercise but a special heavy friction type of massage to get rid of the fibrositic nodules. This massage is extremely painful and will aggravate the condition for two or three weeks; but if treatment is persistent, the patient will then improve and the improvement may continue for months or years.

Fat herniations and adiposus dolorosa are not usually very successfully treated by physical measures.

Senile and post-partum osteoporosis may be

relieved symptomatically by heat and massage but the underlying cause is not removed. Testosterone and calcium or aluminum preparations have been used but I have not seen anything that will materially change the x-ray appearance. A body jacket or corset may be necessary in some extreme cases but old people do not like rigid supports and usually will not wear them. So I have found that symptomatic treatment repeated as attacks occur and specific advice on prevention of injury have been most practical. Schmorl's nodes are evidences of herniation of the nucleus pulposus into the body of the vertebra due to osteoporosis.

Multiple myeloma cannot be treated by physical measures.

Postural backache may result when mechanically inefficient backs are complicated by weakened muscles or injury. The most frequent underlying cause is exaggerated lordosis so that the center of gravity of the trunk lies anterior to the sacrum. In some cases sacralization of a lumbar vertebra or lumbarization of a sacral vertebra whether partial or complete may be a factor. In these patients postural exercise emphasizing anterior rotation of the pelvis to attempt to improve the weight bearing line plus abdominal and back strengthening exercises may be useful. They must be continued for long periods of time to be effective so it is best to teach the patient to carry them out at home.

Psychoneurosis presents the same problems in the back as elsewhere only more so. I saw one patient who had been so convinced by an osteopath that leg length inequality was the cause of her backache that she spent most of her time putting sheets of paper in her shoes and taking them out to find the exact height that would give her relief. However, physical treatment will often give the patient an excuse for getting well and thus give at least temporary improvement.

### Summary

There are many other conditions in which physical medicine may bring benefit but since there is not time to enumerate them all, I will conclude by stating that the usefulness of physical methods of treatment has been established in a great variety of the minor as well as the major illnesses that the doctor in general practice is called upon to treat.



## CANICOLA FEVER

### Report of a Human Infection Due To *Leptospira Canicola* in Minnesota

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CANICOLA fever is a mild form of leptospirosis, caused by a spirochete, *Leptospira canicola*. It is an acute febrile disease, characterized by myalgia, headache and markedly injected conjunctivae. There may be meningeal, renal or hepatic involvement. The organism, *L. canicola*, cannot be differentiated morphologically from *L. icterohemorrhagiae*, the etiologic agent of Weil's disease. Unlike most leptospira, however, it has no known rodent host, being primarily a parasite of dogs.

In 1945, Green and Stavitsky<sup>2</sup> made a survey of leptospirosis in Minnesota. They tested 198 human sera for agglutinins for *L. icterohemorrhagiae* and found none with a significant titer. However, 15 per cent of the rats and 18 per cent of the dogs tested showed a significant agglutinin titer to *L. icterohemorrhagiae*. They were not tested for antibodies to *L. canicola*. Therefore, there is a potential reservoir for leptospiral disease in Minnesota.

In 1931 Klarenbeek and Schuffner<sup>10</sup> discovered in Holland a variant of *L. icterohemorrhagiae* which they called *L. canicola*. Since 1937, when Dhont first described the human disease, about 200 cases have appeared in the literature, most of them from Holland and Denmark.<sup>8</sup> The first case in the United States was described by Ashe in 1941.<sup>1</sup> Since then about twenty cases have been reported in this country.<sup>8,9</sup> The purpose of the present report is to present the first case of human canicola fever to be recognized in the State of Minnesota.

#### Case Report

C.S., Negro, thirty-seven-year-old packing house worker, was admitted to the Minneapolis Veterans Hospital on July 27, 1951 with high fever, chills, headache,

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malaise, severe muscular pains and sore throat of eighteen hours duration. The pain in the muscles of his left thigh was so severe that he was unable to move the leg. The admitting physician's diagnosis was poliomyelitis. The patient's temperature was 103° F., pulse 110, blood pressure 108/78. He appeared acutely ill with markedly injected conjunctivae and slight nuchal rigidity. There was marked muscular tenderness, especially in the legs.

His hemoglobin was 12.6 gm. per 100 cc., leukocyte count 12,860 with 89 per cent neutrophils and sedimentation rate, 63 mm. in one hour. Urinalysis showed a trace of albumin. Brucella blood cultures, Kahn and sickling tests were negative; Brucella, Q fever, heterophile and cold agglutinins were all absent. Stool examinations and the chest roentgenogram were also normal. Because the clinical features suggested canicola fever, he was asked about recent contact with dogs. The patient stated that very recently his dog had developed paralysis of the hind limbs and had died, presumably of distemper. Efforts to obtain the dog's carcass were not successful. Studies for leptospirosis were then done. Guinea pigs were inoculated with the patient's urine and blood on July 31, 1951; they did not become ill and autopsy was normal six weeks later. Dark-field examination of the blood and urine was done with negative results on August 1, 1951. A spinal fluid examination was performed and was entirely normal. A muscle biopsy was obtained on July 30 and was also normal. Acute and convalescent sera were obtained for leptospiral antibodies. None of the sera contained antibodies for *L. icterohemorrhagiae*. On July 31, 1951, antibodies for *L. canicola* were absent but on August 8, and again on August 31, they were present in a titer of 1:512. Antibodies for *L. pomona* were present in a titer of 1:64 on August 8, but were absent in the other sera.

The patient remained febrile with a plateau fever of about 102° F. for six days with gradually subsiding myalgia and generalized weakness. He had an uncomplicated convalescence. At present he is working every day and has no complaints.

#### Comment

This case emphasizes the need for agglutination studies for leptospiral diseases whenever one sees a patient with fever together with muscle pain, meningismus, and injected conjunctivae. This is especially true if there has been contact with a sick dog. It should also be noted that the initial diagnosis was poliomyelitis. The muscle pain is frequently so severe that the patient will not move his arms or legs and a primary neurological disease may be considered. Several errors were made

# CANICOLA FEVER—PEARSON AND HALL

TABLE I. THE INCIDENCE OF VARIOUS SYMPTOMS IN CANICOLA FEVER

	Per cent
Headache	80
Myalgia	70
Chills	52
Gastro-intestinal Symptoms	51
Mental Symptoms	29

Adapted from Rosenberg<sup>3</sup>.

TABLE II. THE INCIDENCE OF SOME PHYSICAL ABNORMALITIES IN CANICOLA FEVER

Signs	Per cent
Fever	100
Injected Conjunctivae	48
Meningeal Signs	48
Bradycardia	39
Petechiae	20
Respiratory Symptoms	19
Rash	15
Icterus	13
Palpable Liver	8
Herpes Labialis	5
Palpable Spleen	2.4

Adapted from Rosenberg<sup>3</sup>.

in attempting to establish a laboratory diagnosis. The patient's blood should have been injected into a hamster instead of a guinea pig. The muscle biopsy was done early in the illness and should have been done after the third week. The transient low titer of antibody for *L. pomona* probably was nonspecific.

## Discussion

Canicola fever is a natural and frequent illness in dogs. Meyer<sup>5</sup> has estimated that approximately 25 per cent of all dogs have had the disease. Approximately two-thirds of the human cases give a history of exposure to dogs. The disease is transmitted via the urine of infected dogs to humans through mucous membranes, the gastrointestinal tract or breaks in the skin. In addition to direct contact with dogs, it can also be transmitted by bathing in contaminated water.

The disease in dogs was at one time called Stuttgart or canine typhus. It produces an illness which is quite similar to distemper although there are no pulmonary manifestations. The dog has a high fever, paresis of the hind legs and gastrointestinal symptoms. As in humans, the disease has diverse symptoms and varies greatly in severity from no symptoms at all to those proving rapidly fatal. Death is apparently caused by renal involvement and uremia.<sup>4</sup> Only 3 per cent of the dogs have jaundice. It is three to five times as

TABLE III. COMMON LABORATORY FINDINGS AND THEIR INCIDENCE IN CANICOLA FEVER

	Per cent
Rapid Sedimentation Rate	100
Albuminuria	75
Spinal Fluid Changes	42
Leucocytosis	41
Microscopic Hematuria	36
Azotemia	32

Adapted from Rosenberg<sup>3</sup>.

frequent in male dogs as in females. Dogs also may become infected with *L. icterohemorrhagiae*; this organism produces a more severe illness accompanied by hemorrhagic phenomena and jaundice.

The disease in humans is characterized by a sudden onset with chills and a temperature of 103° to 104° F. after an incubation period of one to three weeks. The fever is accompanied by headache, photophobia, muscle tenderness, nausea and vomiting (Table I). Signs of meningeal irritation are very common with stiffness of the neck and a positive Kernig's sign (Table II). The patients are often thought to be suffering from meningitis or poliomyelitis. Where the meningeal symptoms are slight or absent, the illness may be mistaken for severe influenza. In some cases pulmonary or cardiac findings may be prominent. The conjunctival vessels are often markedly injected. Skin eruptions, either morbilliform or scarlatiniform, are more common than in Weil's disease. Jaundice occurs in only 13 per cent of the cases, is usually mild and appears on the fourth to the sixth day. About this time renal findings such as albuminuria and microscopic hematuria also are found (Table III). Some case reports stress oliguria and there may be a rise in the blood urea nitrogen. The extent of kidney damage varies widely; in mild cases there may be only transient albuminuria. Gastrointestinal symptoms such as nausea, vomiting and diarrhea occur in over half of the cases and may be quite prominent. One frequently observes mental symptoms such as irritability, insomnia and anxiety, probably the result of encephalitis.

An increased sedimentation rate has been reported in every case. A neutrophilic leukocytosis is frequent but the leukocyte count may be within normal limits. Although the spinal fluid may be normal, there is often an elevation of the leukocyte count, usually to 12 to 200 per high power field. These cells are usually lymphocytes although a high percentage of polymorphonuclears may be



found early in the disease. In contrast to bacterial meningitis, the spinal fluid sugar is normal although the spinal fluid protein is usually elevated.

All victims have fever, two-thirds having a temperature over 103° F. The type of fever curve varies and the patients are febrile for about one week. In about one-half of the cases the patient may have a relapse with return of symptoms at the end of the second week. Rarely several relapses occur. Convalescence is usually prolonged, with complaints of weakness and fatigue. There may be some residual muscle tenderness.

Complications occur in about 15 per cent of the cases and are usually mild and transient. Alopecia, which is frequently seen in the dog, occurs occasionally in human beings. Eye complications are common with photophobia and blurring of vision during the acute illness. Later diplopia, iridocyclitis, vitreous opacities, optic neuritis and retrobulbar neuritis may occur.

Iridocyclitis has been mentioned as a frequent complication and it is recommended by many ophthalmologists that patients with idiopathic iridocyclitis should have tests for leptospiral agglutinins. Neurological complications such as subarachnoid hemorrhage and brachial and sciatic neuritis are seen occasionally.

Fortunately, canicola fever is usually a benign illness and death is rare, only three fatal cases having been reported. It is difficult to ascertain the cause of death in these cases. In the two cases studied at autopsy, the impression of the authors was that the patients died in uremia with acute renal insufficiency due to tubular damage.<sup>13</sup>

Although Ashe<sup>1</sup> feels that a clinical diagnosis can be suspected from the symptoms, physical findings and a history of exposure to dogs, a definite diagnosis can only be established by laboratory means. During the first few days of the illness, the "septicemic phase," the diagnosis can occasionally be made by injection of blood into hamsters.<sup>12</sup> Though susceptible to *L. icterohemorrhagiae*, guinea pigs are resistant to *L. canicola* and should not be used. After the first ten days the organisms may be found in the patient's urine. Dark-field examination of the blood has also been used but is of little value. Some experienced observers have been able to find leptospira by dark-field examinations of the urine after the tenth day. Blood and urine cultures are not used routinely because growth is frequently delayed for several weeks. The best diagnostic

test is the agglutination-lysis test of Schuffner and Mochtar.<sup>10</sup> The disadvantage of this test is that the diagnostic titers do not appear until the tenth to fourteenth day. A diagnostic titer is 1:300 or above. Cross agglutination with other leptospiral antigens may occur and not infrequently there is some elevation of agglutinins to *L. icterohemorrhagiae* and *L. pomona*.\*

The most common mistake has been to confuse canicola fever with one of the following diseases: Meningococcal meningitis, influenza, typhoid, poliomyelitis, serous meningitis, infectious hepatitis, acute gastroenteritis, infectious mononucleosis, trichinosis and carbon tetrachloride poisoning. Occasionally the severe muscle pain has led to a diagnosis of a surgical abdomen and two cases have been operated on mistakenly for appendicitis and gallbladder disease. There is a clinical aphorism that in a patient with jaundice and renal disease one should consider the possibility of carbon tetrachloride poisoning and leptospirosis.

Sheldon<sup>11</sup> described changes seen in skeletal muscle in Weil's disease and advocated muscle biopsy as a diagnostic procedure. The early finding is muscular necrosis with a very slight amount of inflammation. The diagnostic change occurs later in the healing stage with a striking amount of sarcolemmal nuclear proliferation. It is not advisable to take the biopsy until at least the tenth day of illness and preferably after three to four weeks. This test remains positive for several months. The best way to make the diagnosis early in the disease is to have the dog examined by a veterinarian if there is a history of exposure. The leptospira are easily found in the kidneys.<sup>13</sup> An early diagnosis may also be made by inoculating the patient's blood into a hamster or in Schuffner's culture media.<sup>12</sup>

Because the disease is self-limited and relatively benign, it is difficult to determine the value of various forms of therapy. Antibiotics have been used both experimentally and clinically. Penicillin has been used most often and has been found to be leptospirostatic *in vitro*. Some authors are quite enthusiastic while others claim it is of little value in leptospirosis. There appears to be a varying

\*In all cases where the clinician suspects leptospirosis, both acute and convalescent sera should be sent to the laboratories of the Minnesota State Board of Health which will forward the sera to the Communicable Disease Center of the U. S. Public Health Service at Chamblee, Georgia.

response; it is more effective when given early. Penicillin does not prevent relapses nor does it eliminate leptospiuria. Because of this, some authors recommend the concomitant use of streptomycin in eradicating the leptospira from the urine. Aureomycin and terramycin have also been reported to be beneficial.<sup>9</sup> The majority at this time seem to favor the use of aureomycin or terramycin as early as possible in the disease, although there is insufficient evidence to prove their value. All dogs suspected of having the illness should be isolated and treated until there is no further evidence of leptospiuria. Penicillin has been said to be of value in the dog.<sup>12</sup>

### Summary

A case of human canicola fever has been reported, the first to be recognized in Minnesota. The diagnosis of canicola fever should be included in the differential diagnosis of any unexplained febrile illness. Conjunctivitis and meningitis are common and jaundice is rare in the disease. Inquiry into history of exposure to dogs and repeated serum agglutination studies are most helpful. Because of the vast canine reservoir of the disease, the human disease may not be rare. Knowledge of the clinical features and available diagnostic tests should lead to the recognition of many more cases.

### References

1. Ashe, W. F.; Pratt-Thomas, H. R., and Kump, C. W.: Weil's disease, A complete review of American literature and an abstract of the world literature. *Medicine*, 20:145-209, 1941.
2. Green, R. G., and Stavitsky, A. B.: A survey of leptospirosis (Weil's disease) in Minnesota. *Minnesota Med.*, 28:549-550, 1945.
3. Liebowitz, D., and Schwartz, H.: Leptospiral infection in man treated with terramycin. Report of a case. *J.A.M.A.*, 147:122-123 (Sept. 8) 1951.
4. McIntyre, W. I. M., and Montgomery, G. L.: Renal lesions in leptospira canicola infections in dogs. *J. Path. & Bact.*, 64:145-160 (January) 1952.
5. Meyer, K. F.; Stewart-Anderson, B., and Eddie, B.: Canine leptospirosis in the United States. *J. Am. Vet. M.A.*, 95:710-729, 1939.
6. Meyer, K. F.; Stewart-Anderson, B., and Eddie, B.: Epidemiology of leptospirosis. *Am. J. Pub. Health*, 29:347-353, 1939.
7. Molner, J. G.; Meyer, K. F., and Ruskin, H. A.: Leptospiral infections, a survey. *J.A.M.A.*, 136:814-819, 1948.
8. Rosenberg, Bernard L.: Canicola fever. *Am. J. of Med.*, 11:75-91 (July) 1951.
9. Rosenbaum, H. D.: Canicola fever, case report and review of the literature. *Arch. Int. Med.*, 78:531-543, 1946.
10. Schuffner, W. A. P.: Recent work on leptospirosis. *Tr. Roy. Soc. Trop. Med. & Hyg.*, 28:7-37, 1943.
11. Sheldon, W. H.: Lesions of muscle in spirochetal jaundice (Weil's Disease: Spirochetosis Ictero-hemorrhagiae). *Arch. Int. Med.*, 75:119-124, 1945.
12. Stavitsky, A. B.: *Leptospira Infection in Diagnostic Procedures and Reagents*, Third Edition, pp. 315-346. New York: American Public Health Association, Inc., 1950.
13. Wolff, J. W.; van Dam, R., and Minkenhof, J. E.: The first known fatal case of canicola fever. *Lancet*, 1:1100-1102 (May 19) 1951.

### RECKLESS DRIVERS—RECKLESS JURIES

We observe with horror and discouragement the loss of life of the flower of our youth in modern warfare. In September, 1951, the millionth American military man died in the service of his country since 1775. The millionth motor vehicle victim died in December, 1951, and the count only started in 1900!

Every day we read in the newspapers of traffic accidents. Only the spectacular rate headlines. The average reader shows little interest unless he knows or is related to the victims.

Those in the automobile insurance business have the opportunity to study claim reports daily. We know the causes of accidents. The following are typical:

Speeding, the cause of over half of all motor vehicle accidents; drunken driving; driver had "only one drink"; failure to stop on signal; brakes failed to hold; failure to stop at stop sign; failure to yield right of way; driving over center line; bad judgment in trying to pass the car ahead; insured's young son learning to drive; showing

off, racing and stunt driving; driver had defective vision; driver had epileptic fit; driving on wrong side of road; elderly driver, hard of hearing—became confused.

This list embraces over 90 per cent of all of the reasons why automobile accidents happen. All of them are preventable or involve drivers who should not be permitted behind the wheel of an automobile.

Insurance companies have lost many millions of dollars over the past several years in underwriting automobile business, especially those forms involving liability for bodily injury and property damage. Premiums have been increased in almost every state in the Union. It is now evident that because of the increased amount of money insurance companies have had to pay out or set aside as reserves for losses, a further advance in the premium level will eventually be required. Accident frequency is increasing, more people are being killed and injured, and settlement values and court verdicts have reached an all-time high.—*Fireman's Fund Record*, August, 1952.

## MELANIN SPOTS OF THE LIPS, ORAL MUCOSA AND DIGITS ASSOCIATED WITH INTESTINAL POLYPOSIS

### Report of a Case

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**R**ENEWED interest in the syndrome of melanin pigmentation of the lips, oral mucosa and digits associated with intestinal polyposis has been manifest in the medical literature since 1949. It is now well established that the presence of melanotic spots in these locations indicates further investigation of the patient to rule out intestinal polyposis.

Sir Jonathan Hutchinson,<sup>8</sup> in 1896, was the first to report the distinct melanin pigmentation that is characteristic of this syndrome, in identical twins. There was no mention made of the presence or absence of pigmented areas of the hands. Hutchinson was not aware of the presence of any intestinal trouble in either twin. However, Weber,<sup>12</sup> in 1919, reported a follow-up study on these cases and stated that one twin died at the age of twenty from intestinal intussusception, and the second twin died at the age of fifty-two of cancer of the breast.

Dermatologists have been aware of the peculiar melanotic pigmentation of the lips, oral mucosa, face and digits for some time prior to the association of this syndrome with intestinal polyposis. In 1921, Peutz,<sup>9</sup> of the Hague, described a family in which several members had pigmented spots of the mouth, hands, and feet with intestinal polyposis. This report represents the first reference in the medical literature to the syndrome by a specific title and the earliest to stress the association of pigmentation with intestinal polyposis.

Van Dijk and Oudendal,<sup>11</sup> in 1925, reported the incidence of a brother and sister who underwent surgery because of repeated episodes of intestinal colic. Intussusception of the ileum secondary to adenomas of the small bowel was found. Both brother and sister had pigmentation of the lips and buccal mucosa.

Foster,<sup>3</sup> in 1944, published the report of a father and daughter who suffered from single small bowel polyps complicated by intussusception. They both showed the characteristic circumoral

pigmentation. The father's brother, who also had similar lip and facial pigmentation, was subject to attacks of abdominal pain and bloody stools. He was found to have an inoperable carcinoma of the stomach. This man's son also had attacks of abdominal pain as well as unusual pigmentation of the oral mucous membrane and lips.

Touraine and Couder<sup>10</sup> reported another case in 1945. Jeghers<sup>6</sup> is primarily responsible for calling attention in the American medical literature to this hitherto unappreciated syndrome. In 1944 he briefly reviewed the literature and mentioned two proven cases. Recent interest in this syndrome was renewed following a comprehensive review of the literature and case reports of ten patients by Jeghers, McKusick and Katz<sup>7</sup> in 1949. Since then, four additional cases<sup>1,7</sup> have been reported in the literature to give a total of twenty-five proven, five probable, and four possible diagnoses of this unusual syndrome.

### Pigmentation

The pigmentation in this syndrome is most striking on the lips and buccal mucosa, presenting as round, oval, or irregular patches of brown or occasionally almost black pigment. The patches on the lips and buccal mucosa vary in size from 1 to 5 mm. or slightly larger in diameter. Patches in the mouth are most prominent on the buccal mucosa, occasionally on the gums, or hard palate, and more rarely on the tongue. Pigmentation of the lips is more noticeable on the dental than on the outer aspect and more numerous on the lower lip. Pigmented spots may be found on the upper lip and more rarely involving the skin about the mouth and on the fingers and toes. Histologic study of a pigmented lesion reveals a collection of melanin to be distributed in vertical bands through the epidermis. The salient factor is that the labial and buccal mucosal pigmentation must be present in order to diagnose this syndrome; digital and facial pigmentation are merely complementary if found. The pigmentation must not be confused with ephelides (ordinary freckles) which do not occur on the mucous membrane of the oral cavity.

Inaugural thesis presented before the Minneapolis Academy of Medicine, April, 1952, and before the annual meeting of the Southern Minnesota Medical Association, Mankato, Minnesota, September 8, 1952.

Figure 1 shows the characteristic pigmentation. Jeghers<sup>6</sup> calls the buccal mucosal pigmentation the *sine qua non* of the syndrome.

The sex distribution in the reported cases is

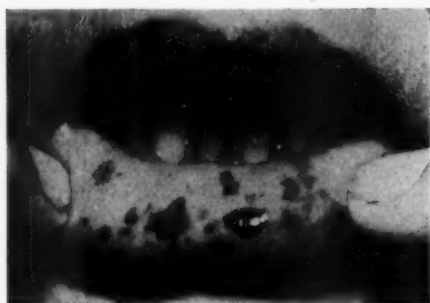


Fig. 1. Characteristic melanin pigmentation of the lips and buccal mucosa, as demonstrated by case reported.

equally divided between male and female. Most of the patients were dark complexioned. In each patient where data were available, pigmentation had been present from early in childhood to the age of twenty or more with little or no tendency to fade prior to that time. Peutz<sup>9</sup> observed some fading of the facial pigmentation after the age of twenty-five, but the oral pigmentation persisted.

#### Intestinal Polyposis

The other phase of the syndrome consists of intestinal polyposis. In the reported cases the polyps were distributed throughout the entire intestinal tract with their most striking clinical manifestations in the small intestine. Polyposis was also present in the stomach, colon and rectum in a number of the patients; however, the jejunum led the other intestinal segments by far, as the most frequent location for polyps.

The intestinal lesions are the usual adenomatous polyps. The well-known tendency for multiple polyposis of the colon to develop malignancy holds to some degree for the small bowel polyps in cases of this syndrome. The incidence of cancer here is not so great as that in the hereditary large bowel polyposis but is distinctive enough, nevertheless. Small bowel polyps developed malignancy in six diagnosed patients of the twenty-five case reports in the literature.

Four of Peutz's<sup>9</sup> patients had nasal polyposis and one had polyposis of the bladder. Jeghers<sup>7</sup> and associates reported one patient with the classi-

cal pigmentation in which they were unable to establish intestinal polyposis after thorough investigation. Actual polyps present are shown in Figure 2.

#### Heredity

It is well established that multiple polyposis of the large intestine is frequently hereditary. Dukes,<sup>2</sup> in an exhaustive review of the subject, concludes that "it is an inheritable disease which is transmitted by both males and females, that both males and females suffer from the disease, and that inheritance can be traced through several generations." Gates<sup>4</sup> reviewed the genetic aspects of polyposis of the large intestine and was able to discover the pedigree of a total of forty families in the literature. He concluded that the condition is a simple Mendelian dominant with an occasional skip in some families.

Multiple polyposis of the small intestine or of the entire gastrointestinal tract, as seen in the syndrome under discussion, appears to be an entity distinct from the more common colonic polyposis, yet available data indicates that it follows a similar genetic pattern; that is, the syndrome appears to be inherited as a simple Mendelian dominant. Both males and females carry the factor, and both are affected about equally. Jeghers<sup>7</sup> suggests that variability may at times be present in the hereditary pattern of this syndrome, although no definite evidence of it has been established to date. It might be subsequently demonstrated that in the same family some members show only polyposis and some only spots.

#### Case Report

The patient, a twelve-year-old white boy, was referred to our office by Dr. O. L. N. Nelson on June 25, 1951. This patient previously had been studied and reported as one of the small group with this unusual syndrome by Drs. Perry and Zuska<sup>8</sup> at the Naval Medical Center, Bethesda, Maryland. A polyp of the descending colon was resected at that institution in 1949. He was subsequently advised to have periodic gastrointestinal x-ray studies and sigmoidoscopic examinations.

**Past History.**—This patient's past history is extremely interesting. His illness had its clinical onset when, between the ages of nine and twelve months, he had his first episode of subnormal temperature, pallor, listlessness, abdominal distress, and repeated vomiting. Medical advice was sought, but no therapy was instituted because the symptoms subsided in a few days. When the child was between nine months and six years of age he suffered five or six similar episodes, each characterized by



sudden onset. During this entire period he was a sick, underweight child with many feeding problems; in particular, the morning meal was vomited after eating. Many physicians were consulted and the consensus was that the mother wasn't feeding the child correctly.

In 1944, at the age of six years, another episode of high intestinal obstruction occurred. He was then hospitalized for fifteen days. During this period an exploratory laparotomy was performed and a double intussusception of the proximal jejunum was found. Two large polyps of the jejunum were responsible for the intussusception. A segmental resection with end-to-end anastomosis was performed. The postoperative course was uneventful and the patient has had no further signs of intestinal obstruction since the operation. Histologically, both polyps were reported as benign.

One year later several polyps protruding from the boy's anus were excised. The patient's family was advised that he should have yearly barium enema studies along with proctoscopic examinations. When he was between the ages of seven and eight years, five or six new rectal polyps were discovered and excised. Again, at the age of eight another rectal polyp was fulgurated.

The patient had no more difficulty until July, 1949, when a large polyp of the descending colon was discovered by roentgenogram. He was then hospitalized at the Naval Medical Center at Bethesda, Maryland, where the syndrome of melanin spots of the lips, oral mucosa, and digits was first associated with his intestinal polyposis and labeled as such. His pigmentation, however, had been present since birth. A colotomy was performed and the polyp excised. No other abnormality was noted on abdominal exploration and the polyp was reported as a benign adenomatous type.

**Family History.**—Neither maternal nor paternal grandparents showed any signs of melanin spots or intestinal polyposis. Two are living and well. One died of pulmonary tuberculosis and the other of uremia. No other relatives could be implicated with this syndrome and both father and mother are living and well. There is one sibling, a brother, aged sixteen years. Careful examination revealed two questionable melanin spots of the dorsum of his left hand. However, proctoscopic, upper gastrointestinal x-rays with stasis studies, and a double contrast barium enema were all negative. This patient studied apparently represents a sporadic incidence of this syndrome.

Follow-up studies were non-revealing until June of 1951. At this time double contrast barium enema studies revealed another polyp of the descending colon. Proctosigmoidoscopic examination revealed a small (2 x 2 mm.) sessile adenoma of the right rectal wall at 7 cm. This was fulgurated. No other abnormality was noted as far as 25 cm.

The patient was admitted to St. Barnabas Hospital on June 29, 1951. At this time he was asymptomatic and he appeared to be a normal, well-developed and well-nourished twelve-year-old white male, weighing 120 pounds. The mucous membrane of the lower lip was diffusely mottled with dark greyish black pigment de-

posited in patches of varying size. These lesions were not elevated. On the skin about the lips there were a lesser number of similar lesions, some slightly elevated, and in addition a few pigmented areas were present on

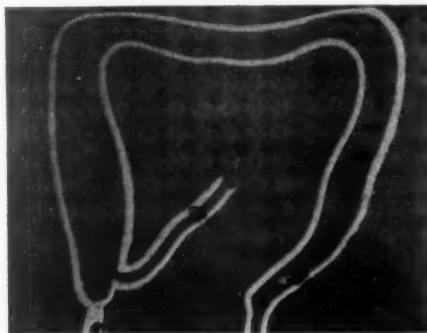


Fig. 2. Sketch of the terminal ileum, appendix and colon with actual polyps in their approximate locations.

the oral mucosa. The hands and feet appeared normal. The temperature was 98° F.; the blood pressure 112/70 mm. Hg. and the pulse 76.

The laboratory reported a red blood count of 4,320,000, hemoglobin, 14.4 gm. and white blood count, 8,100; differential and urinalysis were normal.

Preoperatively he received intestinal preparation with a suspension of sulfathaladine for one week and terramycin for two days. On July 2, 1951, a laparotomy was performed. Palpation of the descending colon readily identified the polyp found at x-ray. It was deemed advisable to examine the remaining gastrointestinal tract and so the stomach and entire intestinal tract were carefully threaded through palpating hands several times. The stomach and duodenum were normal. Six inches distal to the ligament of Treitz evidence of a previous resection and anastomosis was noted. The remaining small bowel was negative, except for the distal ileum. In this segment of bowel, approximately four feet proximal to the ileocecal valve, a polyp was palpated. An ileotomy was performed and a pedunculated polyp 2 cm. in diameter was excised with a cuff of adjacent mucous membrane. The bowel was incised longitudinally and closed transversely.

The colon was next carefully palpated several times. In the region of the distal descending colon the polyp which was discovered on x-ray was easily palpated. A longitudinal colotomy was made over the midpoint of excursion of the palpable polyp. A pedunculated polyp 3 cm. in diameter was visualized and excised over a clamp with an adjacent cuff of the mucous membrane. A sterile sigmoidoscope was next introduced via the colotomy incision to visualize the distal descending and entire sigmoid colon, and no abnormality was noted. The colon was then visualized to the splenic flexure. Three other pedunculated adenomas varying in size from 0.5 to 1.0 cm. were visualized scattered over the descending colon. These were excised at their origin with the ful-

gulating snare and the bases were then fulgurated as were two smaller match-head-sized adenomas in the same area. The colotomy was closed longitudinally.

Before closing the abdomen, the appendix was inspected and since several fecoliths could be palpated it was deemed advisable to remove the appendix, prophylactically. On longitudinal section two sessile 3 x 3 mm. adenomas were noted in its midportion. All polyps were reported as benign adenomatous polyps. The convalescence was uneventful and the patient was discharged from the hospital on the eighth postoperative day.

Follow up x-ray studies on January 3, 1952, reported no demonstrable involvement of the colon or upper gastrointestinal tract. Proctosigmoidoscopic examination, however, revealed a small sessile adenoma of the rectum at 8 cm. This was destroyed by fulguration.

### Conclusions

A brief review of the literature and a follow-up case report of a patient with the unusual syndrome of melanin pigmentation of the lips, oral mucosa and digits with associated intestinal polyposis is presented. This case is probably a sporadic instance of a syndrome which is usually clearly hereditary and transmitted as a simple Mendelian dominant.

When pigmentation of the type described is seen, small and large bowel polyps should be searched for diligently by roentgen studies of the gastrointestinal tract and by sigmoidoscopic examination.

Careful follow-up studies are imperative if we

hope to avert the malignant tendency that may occur in many of these cases, as well as to detect new polyps as they arise.

### Bibliography

1. Behrer, M. R.: Jejunal polyposis with intussusception and melanin spots. *J. Pediat.*, 38:642, 1951.
2. Dukes, C.: Hereditary factor in polyposis intestini, or multiple adenomata. *Cancer Rev.*, 5:241-256, 1930.
3. Foster, O. B. E.: Adenocarcinoma of small intestine in father and daughter. *Brit. M. J.*, 2:78, July 15, 1944.
4. Gates, R. R.: Human genetics. Vol. 2. P. 1172. New York: The MacMillan Co. 1946.
5. Hutchinson, J.: Pigmentation of the lips and mouth. *Arch. Surg. (London)* 7:290, 1896.
6. Jeghers, H.: Medical progress, pigmentation of skin. *New England J. Med.*, 231:88-100, 122-136, and 181-189, 1944.
7. Jeghers, H.; McKusick, V. A., and Katz, K. H.: Generalized intestinal polyposis and melanin spots of the oral mucosa, lips, and digits. *New England J. Med.*, 241:993-1005 and 1031-1036, 1949.
8. Perry, B. F., and Zuska, J. J.: Syndrome of circumoral pigmentation associated with generalized intestinal polyposis. *Med. J. U. S. Armed Forces*, 1:773, 1950.
9. Peutz, J. L. A.: Very remarkable case of familial polyposis of mucous membrane of intestinal tract and nasopharynx accompanied by peculiar pigmentation of skin and mucous membrane. *Nederl. Maandschr. V. Geneesk.*, 10:734, 1921.
10. Touraine, A., and Couder, F.: Syndrome de Peutz. *Ann. de dermat. et syph.*, 5:313, 1945.
11. Van Dijk, J. A., and Oudendal, A. I. F.: Adenomas responsible for intestinal invagination. *Nederl. Tijdschr. & Geneesk.*, 1:966 (Feb. 28) 1925.
12. Weber, F. P.: Patches of deep pigmentation of oral mucous membrane not connected with Addison's Disease. *Quart. J. Med.*, 12:404, July, 1919.

### HILL-BURTON HOSPITAL CONSTRUCTION PROGRAM SLOWING DOWN

During six years, the Hill-Burton Hospital Construction program has approved 1,877 projects for federal grants totaling just over half a billion dollars. Of the 90,645 beds, about 44 per cent already are in operation, the remainder under construction or in planning stages.

The latest progress report, as of September 30, also shows that inflation and budget restrictions are rapidly slowing down the program. In fiscal 1950 a total of 537 projects were completed or on the books; the total for the current fiscal year is not expected to exceed 150.

For fiscal 1948, and 1949, the first full years of operation, appropriations were \$75 million annually. In 1950, Congress increased the maximum limit to \$150 million, and voted the full amount. Appropriations for the subsequent three years were \$85 million, \$82.5 million and \$75 million. Meanwhile, construction costs per bed increased, according to hospital authorities, about 50 per cent.

The program was designed particularly to build small hospitals and in rural areas, but from the start a high

percentage of the funds has gone to relatively large institutions in urban areas. On this the analysis supplied by Division of Hospital Facilities, Public Health Service, states: "Although 57 per cent of the new projects are for facilities with fewer than fifty beds, only 25 per cent of the federal funds . . . (go) . . . to these smaller facilities. A little more than half of the federal money for new hospitals assists facilities with 100 or more beds. For additions or alterations, 82 per cent of federal funds is going to hospitals with 100 beds or more." With emphasis on larger, long-range jobs (nineteen medical school-connected hospitals on current list), reduced grants are not immediately reflected in the administrative workload, which is expected to continue at about its present level for several years.

Under the law, funds are allocated to states for distribution. Determination of what projects to assist is the responsibility of the state hospital authority, based on a survey of hospital facilities and willingness of local communities to make plans and raise money.—*Capitol Clinic*, November 4, 1952.

## MANAGEMENT OF CUTANEOUS MALIGNANCIES

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IT IS unusual today to have a patient first present himself with an advanced carcinoma of the skin. Campaigns to acquaint the layman with the danger of neglecting skin lesions have been on the whole quite effective. Many of the lesions we are asked to see are now in the precancerous stage. Nevertheless we are still shocked out of any sense of complacency by the occasional patient who presents himself for the first time with a far gone cancer. Far more shocking, however, is the case of the patient who has dutifully presented himself to his physician with an early insignificant looking sore and now, because of neglect or ineffective treatment, comes in with a deep hole in his face or swollen regional lymph nodes. It is to forestall this situation that I should like to review the common cutaneous malignancies and present a plan for their management.

Premalignant conditions deserve separate consideration because they pose a difficult problem. What is a precancerous lesion? The best definition I have heard is—any sore that does not heal in three or four weeks. The most common precancerous skin lesion is senile keratosis.<sup>2</sup> These brownish, slightly elevated patches, often with a crusting or scaling appearance, frequently are so widespread on the skin of an elderly patient that one does not know where to start or stop in their treatment. Certainly it would be a very major undertaking to try to remove all the keratotic patches regardless of the method used; yet we know they may have serious potentialities if not treated. For this reason I treat all patches which show any sign of ulceration or recent change. Usually thorough fulguration with a high frequency spark after biopsy of suspicious areas will provide effective control. The use of x-ray in treatment of these lesions is to be discouraged unless they have been shown to be frankly malignant. Senile keratoses are not infrequently the predecessors of squamous cell carcinoma. Their usual location is on the exposed surfaces of the body, namely, face and dorsum of the hands.

Seborrheic keratoses,<sup>3</sup> unlike the preceding va-

occur more commonly on the trunk. They are sharply circumscribed papules or tumors, yellowish to brown in color, and usually have an oily scale. These lesions while not as dangerous as senile keratoses will sometimes break down and become carcinomatous. They are also preferably treated by excision, cautery, or fulguration and not by x-ray or radium.

Pigmented nevi or moles likewise present a problem which is difficult to answer. They may vary from a few lightly pigmented spots present since birth to wide areas of densely pigmented skin, the "bathing trunk" nevus. Black areas are also frequently found in seborrheic keratoses. In general, they are harmless, especially if congenital and not in areas exposed to irritation and if they show no evidence of growth. Moles on hands or feet are especially dangerous. Signs of malignancy are any visible growth in a previously quiescent mole, or the development of a mole in a previously normal area. Degree of pigmentation is of no significance. Should the lesion exhibit these signs of being a malignant melanoma, treatment must be on an all-out basis with wide excision of the primary and preferably a block resection of the regional lymph nodes. Fulguration and irradiation have no place in treatment of these lesions. They are almost totally radioresistant. Ineffective treatment may be worse than none by stimulating the local lesion to more active growth and production of "daughter" colonies surrounding the primary lesion.

Much the most common cutaneous malignancy at our clinic is basal cell carcinoma.<sup>1</sup> In its earliest form it may appear as a minute scaling or crusting area or as a pearly nodule. Later the nodule shows a small ulceration in its center and often has a typical elevated or rolled edge. Still more advanced cases become deeply excavated ulcers—the so-called rodent ulcers, which slowly but relentlessly erode through all tissues including bone, and produce the horribly dished out lesions of the facial region. Favorite site for basal cell carcinoma is the nose and adjacent area of the cheek. They may, however, occur on any part of the face and are common in the scalp. These tumors are supposed to be only locally in-

Read at the Annual Meeting of the Southern Minnesota Medical Association, Mankato, Minnesota, September 8, 1952.

vative. It is not unknown, however, for metastases to be found in regional lymph nodes in cases of long standing basal cell carcinoma, and it is probable that some of these tumors assume characteristics of the squamous cell type. Still others may be of a mixed or squamo-basal type at onset. Microscopically the basal cell carcinoma is recognized by the thick cords or sheets of cells deeply staining with hematoxylin often having a columnar or cuboidal arrangement of the peripheral cells. Frequently there is infiltration of the underlying corium by lymphocytic cells. Many differing types of basal cell carcinoma have been described. Krompecher lists six. Histologically the basal cell lesions should respond well to irradiation therapy for they are composed of rather undifferentiated cells of the germinative layer. For the most part they do respond well and if the involvement is not too extensive, the cure rate should be well above 90 per cent in this type of lesion.

Squamous cell carcinoma may develop anywhere on the body's integument. It is a more malignant process than the basal cell type because it spreads through lymphatic channels as well as being locally invasive. Grossly the lesion may vary from a tiny scaling patch to a large fungating or ulcerating sore. Exposed parts of the body are sites of predilection. Microscopically the cells are more differentiated than basal cell carcinoma, are less deeply staining, and show a tendency to keratinize and form epithelial pearls. As a result of this greater degree of differentiation these lesions are somewhat more radioresistant than the basal cell variety. The site of the original lesion affects the prognosis. Those on the hands and feet have a bad reputation. Squamous cell carcinoma of the skin of the neck is readily curable but a wide zone of normal skin must be included in the treatment area because spread through the local lymph channels is greater in these lesions than in any other type.

The importance of making an accurate diagnosis cannot be overemphasized. We must know what the lesion is before it can be efficiently treated. The matter of making diagnosis boils down to one word—biopsy. The procedure is simple, quick, and innocuous. Contrary to the belief of some it does not tend to disseminate the cancer. Explain the necessity of the procedure to the patient but avoid the use of the word "cut." Say rather, "We must take a small piece

of tissue for microscopic examination." Very few will refuse. With procaine infiltrated into the area excise a wedge from the actively growing edge of the lesion, not from the necrotic or crusted central portion. Include some of the normal appearing periphery. Unless bleeding is unusually active no suture is required. Inform the pathologist of the site and the character of the lesion. Repeat the biopsy if there is any question of the diagnosis.

Provided with microscopic proof that a lesion is malignant one is armed with the courage to prosecute a sufficiently wide excision or deep cauterization or to carry the irradiation to a cancerocidal dose. Without such backing one is more apt to temporize or to give the lesion ineffective or insufficient treatment.

Having established the tissue diagnosis, plan the treatment. I do not treat precancerous lesions, moles, or melanomata with any form of irradiation. Cautery, fulguration, or excision are adequate for the first two and radical excision is necessary for the latter. Irradiation is reserved for proved basal and squamous carcinomata. I do not wish to talk about technical aspects of irradiation but should like to mention a few pertinent points. There is no such thing as a "little x-ray treatment" in attacking skin malignancies. Many patients are still referred in however with such a request. Too little or too prolonged irradiation is worse than no treatment. If given in a single exposure, 3200 roentgens to the base of the lesion is considered to be a carcinomacidal dose. Fractionation of the treatment, that is dividing it into two or more exposures, necessitates increasing the total dose. The referring physician and the patient should both be informed of the expected skin reaction from the treatment. X-rays produce damaging effects on all tissues and cells. Some cancer cells are more susceptible to the ionizing actions of the x-rays than the cells of the normal skin and have less power of recovery than normal cells. This is the sole reason for irradiation treatment of skin cancer. Sometimes this difference in susceptibility is small and as a result the treatment must be carried to a point where a rather severe damage to the bordering normal tissue is produced. An adequately treated case will develop an ugly oozing, red, raw sore in the treated area appearing two to three weeks following the treatments. If not informed of what to expect, the patient may become unduly



alarmed and his local physician may tell him he has an x-ray burn. True enough he has, but it is a therapeutic burn and will usually heal smoothly in another month. Much unnecessary worry and hard feeling can be avoided by referring to the epidermite not as a burn but as an expected x-ray reaction.

Biopsy is again of paramount importance in apparent recurrent lesions. It is the only method which will tell us whether we are dealing with a persistent neoplastic ulcer or chronic irradiation necrosis. Recurrent lesions following previous inadequate irradiation give us trouble, particularly those following treatment with radium where the dose was specified only in mg. hours and where it is difficult to estimate the actual dose in gamma roentgens. It is always futile to attempt to control a recurrent case by administering a smaller dose than originally was used. The growth is undoubtedly a relatively radioresistant one and to effect a cure a considerably larger dose must be given. We see most recurrences in cases previously treated with radium. The surrounding skin is often atrophic, avascular, and scarred. These lesions respond poorly to irradiation and are probably best treated by excision and skin grafting. Unless radium is carefully placed in prescribed patterns in treating skin lesions, the gamma roentgen dosage to the tumor tissue is exceedingly non-homogeneous and parts of the tumor may not receive a cancerocidal dose. For this reason I find it more expedient to use x-irradiation in treatment of accessible skin lesions; the dosage is more homogeneous and surrounding areas can be more easily shielded. This is especially true in lesions of the eyelids. The eyelids can be effectively shielded from x-rays by leaded plastic cups placed over the cornea. There is no effective shielding, however, for the gamma rays from radium and danger of an irradiation cataract is greater if radium is employed in such lesions.

It is not to be inferred that other methods may not be used in treating cutaneous cancer. Undoubtedly an equal number of cures might be obtained if the growth is destroyed by excision or thorough cauterization. Many attempts with such methods are unsuccessful because of failure to include a safe margin of the normal surrounding skin. Lesions of the neck are especially prone to recur unless a wide margin of safety is allowed. I include at least 1.5 cm. margin of normal skin when treating such lesions by irradiation. Fulguration, or cauterization with high frequency spark, if not done properly is an unsafe method. One is apt to think that the spark seen under the surface has devitalized all tumor cells only to have the lesion recur later. The charred crust must be removed and successive layers fulgurated until an ample depth of tissue has been destroyed. It is difficult to anesthetize the skin completely to heat by infiltration of procaine, which is another reason the fulguration is often stopped short of the desired point.

In closing I should like to present a plan for management of cutaneous malignancies:

1. Make a diagnosis—preferably a tissue diagnosis by means of a biopsy.
2. Whatever the method of treatment selected, let it be thorough—include sufficient depth and breadth to encompass all tumor tissue.

I believe that by following these two simple rules the percentage of cures of skin malignancies can be significantly increased.

### Bibliography

1. Bell, E. T.: Textbook of Pathology. Sixth Edition. Philadelphia: Lea & Febiger, 1947.
2. Foot, N. C.: Pathology in Surgery. Philadelphia: J. B. Lippincott Co., 1945.
3. Sutton, R. L., and Sutton, R. L., Jr.: Diseases of the Skin. Tenth Edition. St. Louis: C. V. Mosby Co., 1939.

### SERVICE-CONNECTED DISABILITY CARE

A report for September has just been released showing the extent of treatment in VA hospitals of service-connected disabilities. Of 102,613 veterans hospitalized by VA during that month, 35 per cent were under treatment of service-connected illness or injury. The report showed that 25 per cent were pensioners having permanent and total disabilities; 11 per cent had service-connected dis-

abilities but were hospitalized for other conditions; 8 per cent had no service-connected disability, under treatment for tuberculosis or psychosis; 10 per cent the same as foregoing but under treatment for non-chronic conditions; remaining 11 per cent for miscellaneous conditions.

—*News Letter, M.S.M.A.*, Nov. 14, 1952.

## EMPHYSEMA OF THE LEG FOLLOWING PERFORATION OF THE RECTUM

### Report of Case

WILLIAM C. BERNSTEIN, M.D., C. HARRY GHENT, M.D., and CHARLES E. REA, M.D.

Saint Paul, Minnesota

**S**ERIOUS complications following perforations of the rectum have been reported by many authors. Prior to World War II these complications were accompanied by high mortality rates. A report in the *Military Surgeon* of 1933 stated that perforating wounds of the rectum carried a mortality rate of 45.19 per cent. With the advent of antibiotics and more radical and judicious surgical measures most of the cases of perforation of the rectum which are diagnosed within a reasonable period of time after the accident can be saved.

Peritonitis following perforation of the peritoneal cavity is without question the most common serious complication of rectal perforation. Impalement of the rectum and gunshot wounds most frequently produce this complication. Perforation into the bladder or urethra, injuries to the blood vessels, and abscesses of the perirectal spaces are among the other serious complications of this condition.

We wish at this time to present a case of massive emphysema of the entire leg which occurred following a rectal perforation and abscess of the ischiorectal fossa.

### Case Report

Mrs. G. A., aged forty-nine, was admitted to Ancker Hospital on May 7, 1952. She stated that she had fallen from the top of a chair six days previously and that she had struck her perineum against the edge of the chair during the fall. She also stated that she had injured her left hip and right arm during the fall. The pain in the left hip was very severe immediately after the injury and she was taken to a private hospital. X-ray examination showed no evidence of fracture. During the subsequent four days she had severe pelvic, sacral and left hip pain. She also had pain in the lower abdomen. Her temperature during this period ran between 101 and 102° F. On the fifth day after the injury the pain in the left leg was very severe and extended down to the ankle. The temperature at that time was 102° F. There was a small amount of vaginal bleeding but rectal bleeding was not noticed. On the sixth day after the injury an x-ray of the left leg revealed collections of gas along the fascial planes from the upper thigh to the ankle. A tentative diagnosis of gas gangrene was made and the patient

was transferred to the contagious ward of Ancker Hospital. The radiologist\* who interpreted the x-ray plates did not feel that the case was one of gas gangrene since the gas did not infiltrate a given area in a homogeneous manner but was localized along the fascial planes.

On admission to Ancker Hospital the pelvis and left leg were again x-rayed and at this time an area of gas was seen in the pelvis in an area which seemed to be lateral to the lumen of the rectum. An increased amount of gas was seen in the thigh, popliteal space and calf. The temperature was 101.8° F. Abdominal examination revealed nothing of note. There was no tenderness, rigidity, or masses in the region. Examination of the perineum revealed marked tenderness to the left of the anus. There were no visible lacerations of the genitalia, anus or perineum. There was marked deep pelvic tenderness which prevented an extensive bimanual examination. Marked pain was elicited when the finger was inserted into the anal canal and lower rectum. Examination of the extremities revealed a brownish discoloration over the medial surface of the upper part of the left calf. Extreme tenderness was noted on the upper and medial surfaces of the calf, over the popliteal area and the lower and posterior part of the thigh. Definite crepitation could not be felt. There were no cutaneous blebs present. No mousy or other characteristic odor suggestive of gas gangrene could be detected. An x-ray examination was again made and the plates were compared with those taken previously. The amount of gas along the fascial planes of the thigh and leg was increased over the previous x-ray examination. No evidence of fracture could be made out. Laboratory studies revealed a leukocyte count of 19,300 but were normal in other respects. The remainder of the physical examination was negative.

Immediately after admission the patient was started on 50 cc. of polyvalent antitoxin in 500 cc. of 10 per cent dextrose intravenously. Therapeutic doses of penicillin and streptomycin were given. On the evening of admission it was felt that the amount of gas in the leg was increasing. The patient was taken to the operating room where five incisions were made in the left leg between the ankle and the hip releasing the gas which was under marked pressure. These wounds were packed open. Smears and cultures taken at the time of surgery revealed the presence of *E. Coli*.

Proctoscopic examination was performed on the day after admission to the hospital. This revealed the presence of a perforating wound of the anterior wall of the rectum about 2 cm. above the anorectal line.

\*Dr. B. A. Hall, St. John's Hospital, St. Paul, Minnesota.



Fig. 1. Large air filled cavity lateral to mid-line of lower pelvis.



Fig. 2. Gas seen along the fascial planes of thigh.



Fig. 3. Large amounts of gas between the muscles of the calf.

The edges of the perforation were necrotic and a large amount of very foul smelling pus could be seen coming from the area beyond the perforation. There was a considerable amount of pus in the rectum. The bowel was visualized to the 20 cm. level and no other abnormality was seen. It was then decided that we were dealing with a perirectal abscess secondary to a rectal perforation with extension of gas from the abscess into the left leg.

On the afternoon of May 9, 1952, the patient was again taken to the operating room where the abdomen was opened and a thorough exploration was performed. No evidence of perforation, peritonitis or abscess could be found. There was some induration along the lateral border of the rectum. A sigmoid colostomy was performed and the abdomen was closed. The patient was then placed in lithotomy position and the left ischio-rectal space was opened widely. A large amount of foul smelling pus was encountered in this area.

Following these procedures the patient's condition improved rapidly. The colostomy was opened and the nasal suction tube was removed within twenty-four hours after surgery. On the sixth postoperative day the patient developed signs of thrombophlebitis in her left leg. Improvement followed treatment with anticoagulants and heat. The patient was discharged from the

hospital in good condition on the twenty-first post-operative day.

Much speculation was indulged in by the various physicians who were interested in the case as to the mechanics of the spread of gas from the left ischio-rectal fossa to the fascial planes of the left leg. After consultation with several authorities on anatomy and review of anatomical charts and specimens, it appears that the best possibility lies in the suggestion that the obturator membrane was torn during the fall. Since the first symptoms were those of severe pain in the left hip and deep pelvis, it is logical to assume that in the absence of a fracture that a tearing of the obturator membrane could produce such pain. When one examines the pelvic region on a skeleton or cadaver one sees the obturator membrane as the only real barrier between the ischio-rectal fossa and the leg. In the absence of a more plausible theory we are quite satisfied with the above explanation of the mechanics of the findings in this case. An extensive review of the literature does not reveal the report of a similar case, and we feel certain that this is the first case of emphysema of the leg following perforation of the rectum to be reported.

Read at the annual meeting of the Southern Minnesota Medical Association, Austin, Minnesota, September 8, 1952.

### TUBERCULOSIS AMONG DIABETICS

Tuberculosis among diabetics is a special, serious, and integral part of the whole problem of eradicating tuberculosis. The importance of early isolation of the patient with positive sputum should be stressed, as well as prompt hospitalization and institution of appropriate

therapy. Reeducating the patient so that he will practice good living habits will do much to prevent future relapses.—DAVID A. COOPER, M.D., and KATHARINE BOUCOR, M.D., *The American Journal of Nursing*, November, 1952.

# President's Letter

## NO ROOM

With the approach of the Christmas holiday, many of us will promise himself that this year it will be different. This year we vow that our shopping will be completed early. We vow that Christmas cards will be signed, sealed and ready for mailing so that all that we need do is drop them into the mail box at the proper time. We vow to put into effect long standing plans for a spectacular display on the front lawn. We will probably vow again not to go all-out on gifts, in the vain effort to reduce the shock of January bills.

In all of our vowing about the tangible aspects of the great day, we seem to leave no room for some of the intangible ones upon which the holiday is based. We often leave no room for thought or meditation on the real spirit of Christmas, the emblem of peace and good will toward all men. In a nation whose Declaration of Independence and Constitution are founded upon the concept of divine law, we need no reminder that Christmas is the birthday of Christ and not merely the time for the annual all night world-wide sleigh ride of Santa Claus.

This is not to state that we should abolish all of our traditional yuletide commemorations. It is only to urge that through the tinsel and holly, the candy and nuts, the popcorn balls and ornaments, the wrappings and gifts, should shine the greater radiance of the true spirit of Christmas.

Imbued with that spirit we will not give the same answer that was given to Mary and Joseph when they sought shelter. We will not deny that there is room in the inn for Christ. Let us prepare that room during the busy holiday season, a place in our hearts for the guest of honor.

May each of you enjoy a truly Merry Christmas and a New Year filled with happiness.



President, Minnesota State Medical Association



# Editorial

CARL B. DRAKE, M.D., *Editor*; GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

## CHANGE IN WASHINGTON

IN OUR representative form of government, one political party is likely to stay in power until conditions become so bad that the majority of citizens want a change. The change to another political party constitutes a safety valve and a substitute for armed rebellion.

The recent election constituted a repudiation, in no uncertain terms, of the Truman administration which was doubtless the result of numerous factors. How much the support given by many physicians to the Republican party had to do with the outcome is perhaps open to a difference of opinion. Physicians, however, as individuals and such groups as the National Professional Committee under the leadership of Dr. E. L. Henderson of Louisville, were very active in their opposition to the present administration and undoubtedly exerted a considerable influence.

When we consider how persistently Truman and his henchmen have tried to foist compulsory national health insurance on the people of this country, it is little wonder that determined opposition was undertaken by the medical profession. This attempt on the part of the present administration to take a further step towards socialism by placing the medical profession in the employ of the federal government was made in spite of strong indications that the majority of people were opposed to such a step.

We are informed\* that in 1947 Senator H. A. Smith, chairman of a Senate Committee holding hearings on national health policy, wrote to the governors of the forty-eight states asking their opinion of the Wagner-Murray-Dingell Bill for federal compulsory health insurance and that not one governor favored the bill. The legislators of a number of the states had memorialized congress in the opposition to the program. Such representative organizations as the American Bar Association, the United States Chamber of Commerce, the American Farm Bureau Federation, the Federation of Women's Clubs and the American Le-

gion have all adopted resolutions against the proposal.

The platforms of the two parties were diametrically opposed on two important issues, i.e., compulsory federal health insurance and federal aid to the medical schools. Eisenhower had come out clearly in opposition to federal compulsory health insurance and the Republican platform stated: "We are opposed to federal compulsory health insurance with its crushing cost, wasteful inefficiency, bureaucratic dead weight and debased standards of medical care." Although nothing was said in the Republican platform regarding federal aid to medical schools, Eisenhower had been active before his nomination in raising funds from private sources so that medical schools would not have to be supported by federal funds. He had said: "We must support medical education by private means because, if we don't, it would be the first step towards the socialization of medicine. I am against socialization." On the contrary, the Democratic platform flatly called for federal subsidy of medical education.

How does the AMA stand on national issues?

In the first place, it is opposed to federal compulsory health insurance, of course. It also believes that the support of medical schools is the function of state governments and individuals and that the federal government should not be called upon for funds except in cases in which dire need is demonstrated beyond a doubt, and then help should be limited to "one-time" grants for construction or equipment.

The AMA favors the Reed-Keogh bill, which is at present before Congress, and provides for measures to encourage the creation of pension funds for some 10 million self-employed persons including physicians to equalize pension provisions already in effect for the benefit of corporations and employees.

The AMA also favors the appropriation of federal funds for medical research and the provisions of the Hill-Burton Act for the encouragement of hospital construction.

What will be the new administration's attitude

\**Christian Science Monitor*, November, October 27, 1952.

on the care of veterans for non-service connected disabilities, which has proven such a thorn in the flesh for the medical profession?

The new President will doubtlessly be committed to the principles of social security and he has expressed himself as in favor of improving and extending its provisions. Commitments have been made and those for old age and unemployment will have to be carried out. What will his attitude be toward the present dishonest disposition of tax funds for purposes other than those for which they were collected?

When it comes to balancing the national budget, however, that will lie in the lap of Congress. Whether Congress will be able to effect substantial economies will depend in the last analysis, as Congressman Judd has clearly pointed out, on the attitude of the constituents at home.

### COST OF ANTIBIOTICS

ONE WAY in which the medical profession can assist in lowering the cost of medical care is in the prescribing of antibiotics—the newer wide-range ones, in particular. Too often the cost of drugs is given little or no consideration by the physician.

At the onset of the manufacture of certain drugs, the cost of manufacture is of necessity high. With larger scale production, price reductions occur if the manufacture and sale of the drug is open to competition. This was illustrated in the case of penicillin. Our attention was called recently to a bill rendered the Blue Shield only a few years ago which included a charge of \$92.00 for one day's medication of 4 million units of penicillin for one patient suffering from pneumonia. Aside from the question of the need for any such dose, the cost today would be about a tenth of the figure mentioned.

An interesting editorial on the subject of the antibiotics\* which appeared in a recent issue of the *New England Medical Journal* is instructive. Large-scale production and keen competition have resulted in repeated cuts in the price of penicillin. Not so with the so-called wide-range antibiotics. The manufacture of aureomycin, terramycin and chloramphenicol (Chloromycetin) is controlled by patent rights assigned to individual manufacturers. Inasmuch as they cover much the same field

of infection, the competitive factor will presumably result in price lowering as production increases.

The British, forced of necessity to conserve the export of American dollars for the purchase of American-made antibiotics, found in a small series of cases of pneumococcal pneumonia that the sulfas and domestically produced penicillin were just as effective as the expensive American-made antibiotics. In our own country, several series of bacterial pneumonia have been reported with no difference in effectiveness between penicillin and the newer wide-range antibiotics. While the small number of cases reported is perhaps not enough to be conclusive, the results are strongly suggestive. This applies to the pneumococcal and bacterial pneumonias. Where there is suspicion that the patient is suffering from a so-called atypical or virus pneumonia, there may be good reason to select an antibiotic other than penicillin. In the editorial mentioned, it is interesting to note that the use of 1 gram a day of aureomycin or chloramphenicol seemed effective in eighty-one of the 100 cases reported from a large hospital in Seattle, Washington, which was about one-fifth the amount used in the British investigation.

A further means of effecting an economy in time and effort for the hospital nurse and added comfort for the patient is the adoption of a single injection in the twenty-four hours of a high concentration of penicillin. This dose has been shown to produce therapeutic blood levels lasting the entire twenty-four hours. The injection of penicillin every four hours to a sick patient should have been abandoned long ago.

Our thought is that, whereas the wide-range antibiotics are indicated for certain diseases, their use is extravagant for infections just as well controlled by penicillin or—aspirin.

### MINNESOTA MEDICAL FOUNDATION

AT THE annual meeting of the Minnesota Medical Foundation held at the University of Minnesota on October 2, 1952, thirteen scholarships of \$500 each were presented to undergraduates in the medical school. The recipients were Charles Gamble, Barbara Hanson Subak, Karl Palmer, Bertram Woolfrey, Gene E. Meger, Robert Radke and Maynard Jacobson, members of the sophomore and junior classes. Six additional scholarships, made available by the efforts of Dr.

\*Editorial: Choice of therapy for pneumonia. *New England J. Med.*, 247:736 (Nov. 6) 1952.

Donald J. Cowling to graduates of state colleges, were presented to the following members of the freshman class: Duane Flagstad, Eugene W. Hanson, Harlis Hanson, Gerald Kuss, Curtis Stolee and Ernest Swanson.

The presentation was followed by an address by Dr. William S. Middleton, Dean of the University of Wisconsin Medical School, on "The Springs of Medical Strength."

The dinner meeting held at the Campus Club was presided over by Dr. Owen Wangenstein and greetings were brought by Dr. Horns in the absence of Dr. Diehl.

In the absence of Dr. Vernon Smith, chairman of the Membership Committee, Dr. Francis W. Lynch reported a total membership of 1,035.

Dr. Moses Barron, Minneapolis, Dr. Ray Hedlin, Red Wing, and Dr. Herman E. Drill, Hopkins, were elected to the Board of Trustees.

The meeting was concluded with a memorable impromptu talk by Dr. Cowling on the American system of education and the problems that confront medical education in particular.

## EPIDEMIC RINGWORM OF THE SCALP

**I**N VIEW of the fact that recently there has been a serious outbreak of epidemic ringworm of the scalp in the Grand Forks, North Dakota, area which has spread to East Grand Forks, Minnesota, we are publishing in this issue a release on the subject received from the Minnesota Department of Health.

Epidemic ringworm of the scalp is a contagious disease and reportable in Minnesota. Minnesota suffered from quite a serious epidemic in 1945, when the disease was first made reportable. At that time some 805 cases were recorded, for the most part in Saint Paul. Means to combat the infection were successful so that few cases have been reported in recent years. However, up to November 18 of this year, some seventy-one cases have been reported, forty of them in East Grand Forks school children.

The physicians of the state should be on the lookout for this highly contagious form of ringworm of the scalp so that needed quarantine measures can be instituted. An accurate diagnosis is impossible without the use of a Wood lamp and laboratory culture. Infected hair may be sent to the State Board of Health on the University Campus for culture and diagnosis.

The treatment of the disease is notoriously unsatisfactory. Hence, emphasis is placed on prevention of spread by local Health Officers.

## EPIDEMIC RINGWORM OF THE SCALP

(*Tinea capitis* caused by *Microsporon audouinii*)

**History.**—Epidemic ringworm of the scalp has been recognized for years, and sporadic cases have occurred in many areas. The disease became epidemic in Europe and the British Isles after the first World War. Shortly after 1940, the condition reached serious proportions on the East Coast of the United States and gradually spread westward. It was first called to the attention of the Minnesota State Board of Health by Twin City dermatologists, late in 1944. Epidemic ringworm of the scalp was made reportable in Minnesota in March, 1945.

**Characteristics.**—The outstanding feature of this infection is its insidiousness. Epidemic ringworm, due to *Microsporon audouinii*, may exist for months before it is recognizable. Those accustomed to dealing in the past with less serious forms of ringworm of the scalp may be woefully led astray in trying to apply past experience to this condition. Except in rare instances, *do not* expect to find marked inflammation, induration, boggingness and pustulation such as may occur in other forms of ringworm commonly seen in children. Epidemic ringworm, due to *M. audouinii*, occurs much more commonly in boys and the sites of predilection are the occipital area, around the base of the head, and the sideburn area. It is extremely rare after puberty. Lesions usually are single, to begin with, and may vary from a single, infected hair up to large patches with involvement of most of the scalp. The scalp in the involved area usually exhibits a fine scaling with pin-head sized adherent scales, the so-called "cigaret-ash" scale. Inflammation is not a feature until the infection reaches an advanced stage and usually is never marked. The hair in the infected areas gradually loses luster, becomes brittle and finally breaks off or falls out. In neglected cases, permanent baldness may result.

**Transmission.**—Epidemic ringworm is spread through direct contact, child to child, or through the medium of such contaminated objects as caps, combs, towels, backs of theater seats, barber tools, et cetera. This mode of spread contrasts with that of the non-epidemic scalp ringworm which is contracted usually from contact with an infected animal such as a dog, cat or calf.

**Diagnosis.**—In early cases, diagnosis is impossible if simple inspection alone is relied upon. The greatest single aid in detection of early cases is by examination under filtered ultraviolet light, the so-called "black light," using a Wood lamp. Under this light, infected hairs glow or fluoresce with a blue-green light. With experience the characteristic fluorescence seen in ringworm is easily distinguished. This procedure, however, is not diagnostic, as both the epidemic and non-epidemic types of ringworm may show fluorescence under the Wood light. For positive diagnosis, recourse must be made to laboratory examination. Fluorescent hairs should be plucked and submitted for examination. By staining and cultural

characteristics and microscopic appearance, the type of ringworm can be determined. When fluorescence is present, failure to find the organisms in a single culture should not be taken as proof of absence of infection. Laboratory service is available to physicians through the Minnesota Department of Health, University Campus, Minneapolis. Special outfits are provided for the submission of specimens.

**Treatment.**—The usual treatment is to shave the infected area or remove the infected hairs with tweezers if they are few in number. Fungicides are then applied locally. There have been reports of good results following the use of ointments containing undecylenic acid. The infected area is marked out and an area including one inch of surrounding hair is shaved. If extensive, the whole scalp may be shaved. The fungicide is applied according to specific directions and rubbed in well twice a day. Patients should be examined under the filtered ultraviolet light at weekly intervals.

In resistant cases, x-ray epilation may be necessary. Such epilation should be done only by an experienced operator. Epilation with thallium acetate should not be attempted, as the effective dose is too close to the toxic dose. It should also be pointed out that there have been several reports of neurotoxic reaction following the use of "Asterol." If this material is used, the manufacturer's directions should be closely observed, especially in very young children. Hormone therapy has little value.

**Prevention.**—Prevention is essentially avoidance of contact either direct or indirect with an infected child. Children should be warned not to exchange caps, combs, towels, et cetera. Frequent shampooing is advisable, especially after visits to the barber or theater. Infected children should wear a light stocking cap or other head covering which should be washed daily. They should be excluded from school while there is any danger of transmission of the infection to others. When a case is found, all children in the same family should be examined and re-examined at intervals of about two weeks.

Examination or treatment of the condition should not be attempted without the use of a Wood light.

Cases of epidemic ringworm are required by state health regulation to be reported to the local health officer in the same manner as other reportable diseases (See Regulation 301).

November 17, 1952.

Because the control of tuberculosis is a universal problem, found in all areas everywhere, the program must be shared by all agencies working together, official and voluntary. This means that the disease must be found, isolated, and treated and that efforts and methods for control must transcend the boundaries of a single state, local area, state or nation. The cost of fighting tuberculosis is very great and the problems it produces are many and complex. . . . Efforts to control it and eventually to eradicate it require most intensive work on local, state, national and even international levels of action.—Mabel Baird, *Connecticut State Medical Journal*, May, 1952.

## Help Fight TB CHRISTMAS SEALS



### Buy Christmas Seals

David T. Smith, M.D., of Durham, N. C., Professor of Bacteriology and Associate Professor of Medicine of Duke University, and former president of the National Tuberculosis Association, sounded a warning note against over-optimism over the declining tuberculosis death rate when he addressed Minnesota Christmas Seal workers in October. The occasion was the annual dinner of the Minnesota Tuberculosis and Health Association. It was held at the Coffman Memorial Union, University of Minnesota.

Dr. Smith said the case rate, and not the death rate should be emphasized. He called attention to the fact that 118,438 new cases of tuberculosis were reported in the United States in 1951, and that 2,208 of them were right here in Minnesota.

The following is an abstract from Dr. Smith's talk:

"Tuberculosis can be eliminated as surely as leprosy was eliminated from Western Europe between 1300 and 1600 A.D. but this cannot be accomplished in one generation. A child acquiring its tuberculous infection at the age of three, as shown by a positive tuberculin test, may not develop clinical tuberculosis until the age of eighty.

"As the final stages of the fight against tuberculosis are reached, the expense of hospitalization and treatment will be materially reduced but the expense of case-finding, including tuberculin testing the entire population and x-raying all positive reactors annually, will be increased.

"Finally, when the number of tuberculin reactors becomes small, the cost of the annual x-ray will be insignificant. A little more investment in case-finding now will save millions of dollars later in the prevention of new clinical cases which require expensive sanatorium treatment.

"The rapid, precipitous decrease in the death rate from tuberculosis since 1947 can be attributed primarily to improved medical and surgical treatment. The death rate can no longer be used as even a rough index of the frequency and importance of this disease. The decrease in death rate has not been accompanied by a corresponding decrease in the rate which new cases are developing. There are reasons for believing that many active cases remain undetected in the population and form a source for new infections.

"The remarkable progress in the control of tuberculosis in Minnesota is the direct result of the active control program and not the spontaneous effect of a rising standard of living or other non-specific factors.

"The control program for the future should be expanded to include a tuberculin test for every individual in the state with an annual x-ray of every positive reactor and an annual tuberculin test for every negative reactor. The money saved in treatment, by detecting the new cases in the incipient rather than the moderately advanced stage of the disease should be more than enough to pay for the increased cost of the expanded case-finding program when once the complete program has been activated."

The forty-sixth Annual Christmas Seal sale opened in Minnesota, November 17. The seal design features the double-barred cross, international insignia of the fight against tuberculosis, and a lighted candle in an old-fashioned holder, symbolizing the light of knowledge spread by the Christmas Seal.



# Medical Economics

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Edited by the Committee on Medical Economics  
of the  
Minnesota State Medical Association  
George Earl, M.D., Chairman

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## BUSINESS GROUP TO PROMOTE MEDICAL CENTERS

On October 30, 1952, the American Federation of Medical Centers announced its beginning as a national non-profit organization formed by businessmen and doctors to "show communities how to provide modern, comprehensive medical care to individuals at a cost of one to two dollars a week."

The American Federation of Medical Centers, Inc., plans to start community medical centers, based on business' methods. According to its recent announcement, "this comprehensive medical care will be provided by a self-contained team of physicians, dentists and nurses and other necessary personnel who will work together as the staff of a community medical center."

### Three-Point Program Cited

Formed to work with other organizations in the fields of health and medicine, and to assist in the development of a program for community medical care, the group states that its program is based on three points:

1. The establishment of self-sustained *medical centers* with clinical, hospital, and other necessary facilities for providing modern medical care.
2. The operation in these centers of *efficient group practice*, made possible through selected teams of general practitioners, specialists and other personnel.
3. The creation of a system of *voluntary prepayment for medical care* in which each individual will receive preventive and curative medicine.

The group's report places emphasis on the need for medicine to adopt the methods of industry and business in order to provide more efficient medical care. It states that medicine must "become a self-respecting business which pays its own way."

Explaining further, the report says:

"Throughout the period of its great progress, medicine has been put in the position of seeking money to meet its ever-expanding, ever-recurring needs for facilities and

support—particularly for education and research. Industry, either directly or indirectly, has been supplying much of that money by means of grants and foundations. It has been making contributions to hospital drives, costly plans for plant medicine and in other ways.

"Yet industry has paid too little attention to the medical care this money buys—the kind of facilities provided, or their location with relation to needs. Medicine, on the other hand, has had to do much with little—spreading its pennies as emergency or expediency dictated."

"Neither industry nor medicine has received the return it should have had for its investment," the report continued. "To remedy this inequity, medicine itself must become a self-respecting business which pays its own way."

### Advocates Group Practice

In presenting its plea for public support of the plan, the announcement states that the individual doctor, conscientiously striving to provide adequate medical care, is being swamped by the forces of America's highly industrialized and organized society. After stating that the doctor is usually forced to work alone, the report goes on: "By associating himself with other doctors in team practice, with better facilities, and, in many cases, relief from financial problems, the doctor will, like specialists in all other fields, produce a superior product—better medical care—as a member of a team. Every qualified physician and dentist will have an opportunity to join the group."

Personnel of the American Federation of Medical Centers include Wendell W. Anderson, chairman of the Board, and Dr. Edgar H. Norris, its founder, a physician formerly from Minnesota. Mr. Anderson and Dr. Norris, in announcing the initiation of the plan, state that the group "is convinced that medicine's real weakness is not in the quality of medical care which is superb in some areas, but in the uneven distribution of such care nationally." The announcement followed a six-year study of the national problem of medical care.

As far as doctors of Minnesota are concerned, this new project has not been presented to the Minnesota State Medical Association, and the Association has not been made familiar with the details of the set-up and operation, nor with what the definite purpose is. It is believed that medicine should be very cautious in accepting this proposal until it has been thoroughly studied.

### SENATE COMMITTEE PLANS VA HEARING

The Senate Government Operations Committee, chairmaned by John L. McClellan of Arkansas, will call a hearing in mid-January, 1953, on the management survey report of the Veterans Administration. This report has not been made public. It was completed last spring by a private firm and amounted to a \$605,000 complete investigation on VA operations, including medical activities. The firm's recommendations have been studied by various VA officials.

The committee staff, upon adjournment of Congress last July, began studies into operations of the Veterans Administration, according to a recent issue of *Capitol Clinic*. This study emphasized hospital construction, utilization of hospital facilities and medical personnel and on the possibilities of improving the administration of the veteran's insurance program.

### MEDICAL SCHOOLS SET NEW RECORD ENROLLMENT

More and better financial support and an unprecedented increase in teaching facilities since World War II have combined to bring facilities for medical education in the United States up to an all-time high. This analysis was contained in the summary of a report on medical education in the United States and Canada by the Council on Medical Education and Hospitals of the American Medical Association.

The report showed that enrollment records were broken for the fourth consecutive time in the seventy-two medical and seven basic science schools in this country. In the 1951-52 academic year, there were 27,076 medical students enrolled in United States schools as compared with 26,186 in the preceding year. This is a 3.4 per cent increase. The report states:

"In the five years before World War II, there was an annual average enrollment of 21,514 students. The present total represents an increase of more than 25

per cent. The five-year pre-war average of freshmen students was about 5,800. The latest figure is an increase of about 28 per cent."

### New Peacetime Record Set

There were 6,080 students graduated this year, the report noted—a record number for a regular schedule. The only previous surpassing record was in 1947 when the termination of the accelerated wartime schedule resulted in graduation of more than one class by several schools. The total for that year was 6,135 graduates; estimated students graduating next year is 6,500.

### Expansion Funds Noted

Since the end of World War II, the report stated, more than \$300,000,000 has been spent in expansion of medical school facilities. In addition, some thirteen projects designed to found new schools or expand two-year schools into four-year schools, are now under way. Total operating expenditures, including research, increased in the past year from \$109,000,000 to \$120,000,000.

### Criticism Cited

In commenting on the over-all expansion of medical school facilities, the report said:

"In the period after the war, medical schools and medical educators were subjected at times to severe and unfair criticism for not expanding their facilities more rapidly or extensively. It is to the credit of the medical schools that they insisted that, if proper standards were to be maintained, increases in enrollments would have to be accompanied by the provision of additional capital facilities and by additional operating funds."

The report also gave credit to the American public for increasing its investment in medical education: "It is equally to the credit of the American public that it was willing to increase its investment in medical education so that additional students could be accommodated without lowering the high standards of medical education that several generations had striven to create in this country."

"Through increased legislative appropriations, federal grants in aid, gifts for endowment and current expenses, alumni funds, and, more recently, the efforts of the National Fund for Medical Education and the American Medical Education Foundation, the funds available to the medical schools have been more than doubled since the end of World War II . . . medical education is better supported today than at any time in its history and American medical schools as a group are conducting programs of education and research that far surpass both qualitatively and quantitatively any of their previous efforts."

# Minnesota Academy of Medicine

Meeting of March 12, 1952

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, March 12, 1952. Dinner was served at 7 p.m. and the meeting was called to order at 8:10 p.m. by the President, Dr. O. H. Wangenstein.

There were forty-three members and one guest present.

Minutes of the February meeting were read and approved.

There being no business to come before the Academy, the scientific program followed.

Dr. Roy E. Swanson, of Minneapolis, read his inaugural thesis.

## THE ANTEPARTUM DIAGNOSIS OF ANENCEPHALIC MONSTER

### A Report of Six Cases With Induction of Labor

ROY E. SWANSON, Ph.D., M.D.

Minneapolis, Minnesota

Anencephalus is the most common of single monsters. Its occurrence is a tragedy to the parents and is most embarrassing to the obstetrician when its presence is not suspected for such a severe abnormality precludes its ability to survive and its early recognition cannot be too heavily stressed. The termination of the pregnancy is obstetrically sound and psychologically correct.

The etiology of fetal monstrosity is still in dispute. Both the germinal and unfavorable environment theories have advocates. Recent work on the administration of a massive dose of Cortisone to pregnant mice in the early days of pregnancy has shown a tremendous increase in fetal abnormality, especially hare lip. The high incidence of abortions in mothers bearing monsters may be included in either theory. Monsters are not uncommon in placenta previa where environment with a faulty placenta-fetus relationship may be the factor. Adair's study of fetal malformations in twins, with the constant association of hydramnios with the monster twin, is certainly suggestive of the fetal origin of this condition. Goldmaier found nine out of twenty-two monsters hereditary. Murphy of the University of Pennsylvania in his monograph, "Congenital Malformations," inclines to the germinal theory. He states that in families already possessing a malformed child, the birth of a subsequent malformed child takes place with a frequency which is in the neighborhood of 25 times greater than that of the general population. He also states, "In families containing two malformed siblings, the subsequent defective child is more likely to be born later in the family than it is to be the next child in the order of birth to the first defective sibling; and the defect in both was identical in 50 per cent of the instances." Reports in the literature of two or three consecutive defective siblings are not frequent.

The incidence of monstrosity varies with age, parity and heredity. Mall states, that seven pregnancies out of every hundred give pathologic ova of which but one-third give well formed embryonic monsters, or 2 per cent of all pregnancies. The number of monsters going

to term is said to be 0.6 per cent. It seems only kind, that whenever parents have had a monster born to them, they should be told the statistical facts: Murphy's reassuring statement that the sibling, following the monster, is unlikely to be defective, but that their general risk in subsequent pregnancies is twenty-five times greater than in the general population. They should also be told that about 75 per cent of monster pregnancies are aborted spontaneously and should they wish to take this risk they can be promised careful watching and early diagnosis. The termination of such a pregnancy can be promised.

The diagnosis of anencephalic monster is based on: (1) absence of the fetal head, (2) inability to determine accurately the presenting part, if it is a vertex, (3) abnormality of the presenting fetal head, (4) acute hydramnios, (5) convulsive fetal intrauterine movements from pressure on the foramen magnum, (6) peculiar changes in the fetal heart rate, (7) occasionally very sluggish motion, (8) x-ray findings.

Careful search of the literature reveals that this condition is too infrequently diagnosed before delivery, before term or before the rupture of membranes. Case in 1916 claims to have made the first x-ray diagnosis of anencephaly antepartum. Hartung's report antedates his, by several months. Since then many x-ray diagnoses have been made.

Once the diagnosis of anencephalic monster is made, pregnancy should be terminated at once by conservative means if possible, or by radical procedures depending on the age of the mother, the number of pregnancies, the presence of other abnormal siblings and the wishes and religion of the parents. In the Catholic Moral Doctrine termination is permitted at the age of viability.

I wish to report six cases of anencephalic monstrosity with the clinical diagnosis made antepartum, confirmed by x-ray. Five of the pregnancies were terminated by rupture of the membranes and the sixth by cesarian hysterectomy. All six monsters were female. All mothers recovered nicely.

## MINNESOTA ACADEMY OF MEDICINE

**Case 1.**—Mrs. L, gravida I, para O, thirty-six weeks, aged twenty-six. Routine prenatal case except for last two and one-half months while at the lake in northern Minnesota. On her return on September 22, 1941, office diagnosis of hydramnios with monster made—confirmed by x-ray. Membranes artificially ruptured at hospital September 23. A stillborn female monster was delivered eight hours later. Autopsy. Serology negative. Laboratory negative.

**Case 2.**—Mrs. B, gravida I, para O, thirty-two weeks, aged twenty-five. Sudden hydramnios. X-ray showed anencephalic monster. Membranes ruptured. A female monster was delivered by the breech four hours and forty minutes later. Recovery. Serology negative.

**Case 3.**—Mrs. N, aged twenty-eight, Gravida IV para III, twenty-eight weeks. Recent hydramnios—breech presenting x-ray diagnosis of anencephalic monster. Labor induced by rupture of membranes. Female delivered by the breech in one hour and thirty-seven minutes. Two living normal children; one stillborn (previous) (?)

**Case 4.**—Mrs. S, aged forty, Gravida II, para I, twenty-eight weeks. Patient was seen in consultation in hospital for abdominal tumor and intermittent bowel obstruction. Found to be pregnant four months. About two months later acute hydramnios. X-ray confirmed diagnosis of anencephalic monster. Terminated by cesarean hysterectomy and release of intestinal band producing partial bowel obstruction. Female.

**Case 5.**—Mrs. H., twenty-four years old, Gravida II, para I, twenty-eight weeks pregnant. Recent hydramnios. Diagnosis of anencephalic monster made January 20, 1948. Confirmed by x-ray January 24, 1948. Labor induced January 24, 1948, by rupture of membranes. Three-hour labor. Female.

**Case 6.**—Mrs. H, twenty-one years old, Gravida I, para O, EDC July 15, twenty-eight weeks. Sudden increase in size of abdomen this week. No motion for four days. On April 22 diagnosis of anencephalic monster was confirmed by x-ray. Labor was induced April 22. Female monster.

### Summary

The diagnostic problem in the early recognition of anencephalus is a matter of attention to detail and good prenatal care. Hydramnios is a most consistent finding and may appear very suddenly. Examination of the presenting part if it is the head is instructive. X-ray is conclusive. Termination of pregnancy is indicated. In order that a monster pregnancy be recognized and promptly terminated, the points in its recognition should be kept constantly in mind and x-ray studies when there is the slightest doubt.

### Discussion

**DR. L. G. RIGLER (Minneapolis):** Dr. Swanson has called attention to a finding in the x-ray films of pregnant women which has been recognized for a long time, but certainly very few cases have been recognized in the early stage which he exhibited. Most of the patients that I, myself, have seen have been found more or less accidentally by x-ray examination, the diagnosis not having been suspected from the clinical story. I have never personally seen one as early as one of those which Dr. Swanson showed. I am sure that he has done us a service by calling attention to historical and clinical indications for x-ray examination to determine the presence of anencephaly. The diagnosis itself is not difficult if good radiographs are made and careful attention

is paid to the skeleton of the fetus. The finding, however, is so uncommon that I would scarcely believe it justified to advocate routine x-ray examination of pregnant women in order to make a diagnosis. I do think that more attention should be paid to the signs which Dr. Swanson has indicated and x-ray examination done under these circumstances.

**DR. R. T. LA VAKE (Minneapolis):** Dr. Swanson has brought out clearly the importance of being suspicious of fetal abnormality in the presence of hydramnios and has demonstrated the value of x-ray in all cases where you question the normality of the child.

As to the prospects of future normal children after such abnormalities, I would like to introduce a note of optimism. A patient of mine began her childbearing career with three successive lethally defective children. Following the clear direction of statistics, I counseled against her becoming pregnant again. This advice she did not follow and her last three children proved to be normal and have remained so.

**DR. A. G. SCHULZE (Saint Paul):** Is there any explanation of polyhydramnios?

**DR. WALLACE P. RITCHIE (Saint Paul):** I would like to ask Dr. Swanson a question. This concerns the subject of the hydrocephalic infant. We see a great many of them during the year and they develop very shortly after birth. Can one determine early hydrocephalus *in utero*, say between the third and fourth months?

**DR. HAROLD F. FLANAGAN (Saint Paul):** In my experience there are very few anencephalics, but many more hydrocephalics. While I agree with Dr. Swanson that it might be well to terminate the pregnancy, I think one must have all the criteria before terminating a pregnancy. There is not the problem in delivery in the anencephalic monster that there is in hydrocephalus. Others may not all be quite as competent in reading x-ray findings as are Dr. Rigler and his associates.

**DR. SWANSON (in closing):** In reply to Dr. Schulze's question, hydramnios very often accompanies anencephalus and it is thought to be due to the open condition of the skull and spinal canal with excessive amounts of cerebrospinal fluid being formed. The fetus swallows and inhales fluid *in utero* which is handled through the maternal circulation, and in anencephalus the brain abnormality interferes with this function and hydramnios results (Potter).

Dr. La Vake mentioned one mother with three defective children followed by three normal siblings. This does not change the statistical fact that these women run a risk twenty-five times greater than the normal woman.

In reply to Dr. Ritchie's question regarding the diagnosis of hydrocephalus at three to four months of gestation, all I can say is that this condition is seldom present at birth except with spina bifida and, since it is mostly obstructive, it probably could not be picked up by x-ray this early.

I would reply to Dr. Flanagan that the diagnosis of anencephalus is simple and the x-ray need not be read by an expert. The absence of the calvarium is conclusive. He states that they are rare. I have described six cases in this presentation diagnosed between four and six months and I know of many additional cases here in Minneapolis not diagnosed until birth, which does not make this rare. He believes that the family should not be told and that the pregnancy be allowed to terminate itself, since labor presents no problems. The purpose of this paper was to show that the diagnosis could be made early and that, since these children never survive, the termination of pregnancy was obstetrically correct and justified.

Dr. Edward P. Burch, of Saint Paul, read a paper.



## ADVANCES IN CATARACT SURGERY

EDWARD P. BURCH, M.D.

Saint Paul, Minnesota

From the time of Daviel until approximately twenty years ago, relatively few advances in the techniques of cataract surgery took place. A notable exception was the introduction of cocaine as a local anesthetic by Koller in 1882. Except for improvements and refinements in the instruments commonly used in the extraction of senile cataracts, however, very little progress was made until the early nineteen thirties.

For many years the classical operation for cataract consisted of local surface anesthesia with cocaine, corneal section with the von Graefe knife, a complete iridectomy, and capsulotomy with cystitome or toothed capsule forceps. While some operators employed various types of conjunctival flap which were closed by means of interrupted silk sutures, others employed no flap or sutures whatsoever. This technique imposed upon the patient the burden of remaining virtually immobile in bed with both eyes occluded for from five to seven days. Because of the fact that the vast majority of cataract patients are well-advanced in years, the ordeal of cataract surgery was not inconsiderable. Since the extra-capsular method of extraction was generally in vogue, many individuals were advised to wait until the lens opacities became mature and were thus condemned to many months, and even years, of visual incapacity. Post-operative iritis and prolapse of iris were commonly encountered as complications.

About twenty years ago there began to evolve the modern operation for senile cataract. Pontocaine, which enjoys several distinct advantages over cocaine, was introduced, more adequate anesthesia was obtained through retrobulbar injections of novocaine, corneoscleral sutures of many varieties came into widespread use, and the intra-capsular technique of extraction with forceps or erisophake was popularized. As a consequence of these advances the operation was rendered immeasurably safer, there were fewer operative and post-operative complications, and in many instances surgery was performed at a much earlier stage of development of the lens opacity. Somewhat greater freedom of movement and earlier ambulation also became feasible.

It might be of interest to discuss in some detail those advances which have taken place in the last twenty years or so. Pontocaine, which was first employed as an ophthalmic local anesthetic was introduced by Wilmer and Paton in 1931. It has the advantage over cocaine of possessing better anesthetic qualities and neither dilates the pupil nor desiccates the cornea. At the present time chief reliance, as far as anesthesia is considered, is placed upon the retro-bulbar injection of some type of local anesthetic such as 2 per cent novocaine. Unless the patient is suffering from hypertension a small amount of epinephrine is added to the novocaine. Quite recently hyaluronidase has been added to the anesthetic. This definitely seems to be an advantage from the

standpoint that smaller amounts of anesthetic solution become necessary to produce adequate anesthesia. In addition the percentage of satisfactory nerve-blocks is increased. This in turn decreases the likelihood of vitreous loss. As a rule, if the H. Gifford type of retrobulbar injection is employed, the eye becomes extremely soft and it is more judicious to employ the orthodox technique of retrobulbar injection if an extra-capsular extraction is contemplated in advance, since the profound hypotony which often ensues after the Gifford type of block may render actual extra-capsular delivery of the lens quite difficult. It has recently been demonstrated that 1 per cent xylocaine is also an excellent anesthetic agent for deep orbital injection and akinesia of the lids. Xylocaine as well as novocaine may be combined with either epinephrine or hyaluronidase, or both. The impression has been gained that if an intra-capsular extraction is planned, xylocaine may be superior to novocaine, since marked hypotony, together with excellent ciliary ganglion and motor block and akinesia, has been noted in a very high percentage of cataract patients receiving xylocaine.

While routine lens extraction with general anesthesia under sodium pentothal-curare has recently gained some advocates, it seems unnecessary to subject the majority of patients to the slight but definitely added risk which this procedure entails. Very possibly its greatest usefulness is for the small group of patients who are unduly apprehensive, completely deaf, or psychotic. It is also useful when, because of faulty retro-bulbar injection, there is a tendency for what H. Gifford has termed a positive vitreous pressure or thrust to develop. If such a complication ensues after the corneal section has been accomplished, the operation may be briefly halted and intravenous Baird's solution administered. This will usually cause the eye to assume a more normal vitreous pressure, probably because of the action of curare upon the extra-ocular muscles.

Undoubtedly, the single most important technical improvement in the extraction of the lens is the almost universal use of some type of corneoscleral suture, either with or without a conjunctival flap. The number and variety of sutures employed is virtually legion. Both mildly-chromicized catgut and fine black silk sutures are being used. The corneo-scleral suture permits much more freedom in bed to the patient, allows earlier ambulation and discharge from the hospital. It has rendered postoperative occlusion of both eyes quite unnecessary. Corneo-scleral sutures greatly lessen the threat of iris prolapse. They reduce the amount of astigmatism, promote earlier reformation of the anterior chamber, and decrease the incidence of hemorrhage into the anterior chamber. It has been found perfectly safe and feasible to discharge patients from the hospital in six or seven days following operation. Twenty-five years ago the majority of cataract patients were hospi-

talized from ten to fourteen days. A very substantial saving in hospitalization costs has therefore become possible due to the use of corneo-scleral sutures.

Such sutures also permit the preservation of a round pupil in the majority of operations for cataract. The cosmetic effect is infinitely better if it is not necessary to carry out a complete basal iridectomy.

TABLE I.

<i>Vision with Aphakic Correction</i>	<i>Cylinder</i>
20/10 —18	
20/15 —27	
20/20 —25—70%	None — 9
20/25 —13	2.5D— 1.00D —30
20/30 —10—93%	1.25D— 2.00D —36
20/40 — 4	2.25D— 3.50D —18
20/50 — 1	3.75D— or more — 7
20/60 — 1—99%	
20/200— 1	Average cylinder 1.62D

The chief advantage in the use of absorbable, mildly chromicized, catgut sutures over silk is that the removal of the latter type is always attended by some slight but ever-present risk. It is not advisable to remove silk sutures before the ninth or tenth post-operative day, a factor which necessitates a longer period of hospitalization than if catgut sutures are employed for wound closure.

Since the advent of the sulfa drugs and the antibiotics, potent agents are available to sterilize the conjunctival sac before operation and to combat infection in the untoward event of post-operative infection. For the former the broader spectrum antibiotics are preferable. Cortisone, a relatively recent agent in the ophthalmic armamentarium, can be of great value in checking post-operative iritis, particularly that variety which is due to retained lens substance following extra-capsular extraction.

The accompanying tables represent the complications and results in a series of 100 consecutive, private patients operated upon at the Charles T. Miller Hospital, Saint Paul, Minnesota, during the first five months of 1951.

In every instance 000000 chromic catgut was employed with atraumatic needles attached. The operative technique, which was employed with almost no variation, consisted after the usual skin preparation of injecting the lids and retro-bulbar space with xylocaine or novocaine-epinephrine as described by H. Gifford. The deep injection with 4.5 cm. needle was not employed when an extra-capsular extraction was in prospect. In these instances the 2.5 cm. needle was used. The corneal section was made with a keratome in all but a few instances. The keratome incision was enlarged by means of Maguire or Aebli scissors. If the pupil was sufficiently dilated to permit a safe extraction of the lens through the pupil a peripheral iridectomy was carried out. In all cases where the pupillary aperture was considered to be too small to deliver the cataractous lens through the pupil, or if anterior synechiae were noted, a complete iridectomy was done. Following the iridectomy, 000000 chromic, catgut sutures were inserted at one-thirty, twelve, and ten-thirty o'clock. These sutures were direct, cornea to sclera, appositional sutures. After the sutures had been looped out of the way in such a manner that they did not interfere with

delivery of the lens, the actual extraction of the lens was carried out. Following most extra-capsular extractions air was injected into the anterior chamber. If a round pupil extraction was performed, a solution of 1 per cent pilocarpine was instilled in the anterior chamber since eserine is ineffectual after ciliary-ganglion block. If a complete iridectomy was carried out 1 per

TABLE II.

Intracapsular operations.....	62
Extracapsular operations.....	38
Round pupil operations.....	72
Complete iridectomies.....	28
<i>Complications</i>	
Loss of vitreous.....	3
Iris prolapse.....	3
Post-operative glaucoma.....	1
Post-operative iritis.....	1
Post-operative hemorrhage.....	2
Total cases.....	10
<i>Pre-operative Complications</i>	
Glaucoma.....	5
Diabetes.....	10
Iritis (old healed).....	3
Total cases.....	18

cent atropine was used instead. A 0000 black silk suture was then placed centrally near the free margin of the upper lid and taped to the cheek. Only the operated eye was bandaged.

The placement of direct, appositional, catgut sutures is not difficult and no significant over-riding will occur if the sutures are meticulously placed. Three such sutures are adequate, although one or two additional sutures may be added if the patient has a severe cough or the surgeon has reason to believe that the patient will become excessively restive.

## Discussion

DR. H. W. GRANT (Saint Paul): I have been very interested in this discussion. Dr. Burch performs a large number of cataracts and does them very well. One can eliminate infections by the use of antibiotics; therefore, infection is no problem now. Anesthesia has also markedly improved. Anesthesia must be deep as there is immediate expulsion of the contents of the globe under coughing. However, I have used general anesthesia a little but find it unnecessary.

I believe that you must use catgut, as it is advantageous if the suture should pull through the appositioned edge of the wound. With catgut one gets proliferic changes not present if silk is used.

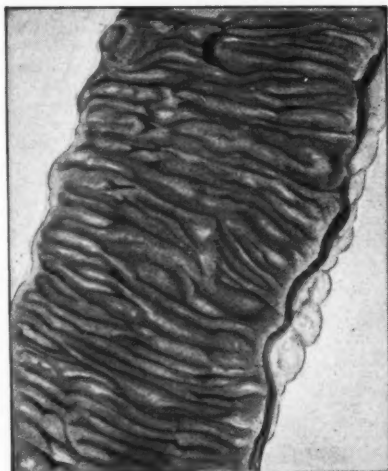
The most important part of cataract surgery is to handle the crises arising during surgery. Intracapsular extraction is here to stay. Each cataract surgeon should work out a technique which is satisfactory to him.

DR. C. N. HENSEL (Saint Paul): Since most of the patients are in the sixth, seventh and eighth decades, and since Vitamin B and C are water-soluble, we find in these people that Vitamin C is of great value. I would like to ask Dr. Burch if he feels that Vitamin C is advantageous in these individuals?

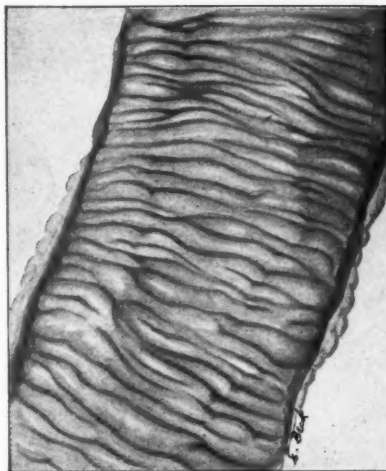
DR. BURCH (in closing): Yes, I agree with Dr. Grant regarding the hazards of general anesthesia in cataract surgery. We prefer to have the patient awake.

(Continued on Page 1174)

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\*Block, L. H.: Management of Constipation with a Refined Psyllium Mucilloid Combined with Dextrose, *Am. J. Digest. Dis.* 14:64 (Feb.) 1947.

**SEARLE** RESEARCH IN THE SERVICE OF MEDICINE

## ◆ Reports and Announcements ◆

### **ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE**

The Forty-ninth Annual Congress on Medical Education and Licensure will be held at the Palmer House in Chicago, February 9-10, 1953. The annual Congress is conducted under the auspices of the Council on Medical Education and Hospitals of the American Medical Association and the Federation of State Medical Boards of the United States.

An open meeting of the Advisory Board for Medical Specialties will be held at the Palmer House from 9 a.m. to 12:30 p.m. on February 8.

Refer to the Annual Congress on Medical Education and Licensure when writing to the Palmer House for your reservations.

### **CHICAGO MEDICAL SOCIETY CLINICAL CONFERENCE**

March 3, 1953, will be the opening day of the Ninth Annual Clinical Conference of the Chicago Medical Society. This Conference, designed to be of interest to both the specialist and the general practitioner, will be held at the Palmer House in Chicago.

Conducting the Conference will be a faculty ranging from thirty-five to forty outstanding speakers each offering a presentation relating to his specialty. Another group will give daily teaching demonstrations which includes the presentation of patients. The teaching will emphasize the actual technique to be employed in handling orthopedic, medical and pediatric problems. Besides these demonstrations each day, there will be a panel discussion at a round-table luncheon presenting topics of timely interest.

Our technical exhibitors are eager to present their latest advances in the field of medicine which will enable the doctor of today to treat his patient most effectively. The scientific exhibitors will demonstrate the handicraft and professional worthiness of leaders of the profession and they will be found to be most worthy of study.

The Chicago Medical Society sponsors this program for its members to whom no fee is charged. Those who are not members are asked to pay a fee of \$5.00 when they register.

This is the time to set up your arrangements so these four days in March will permit you to come to the Palmer House and not only visit with physicians from all sections of the United States and Canada but likewise hear and see the latest developments in modern medicine.

### **INDUSTRIAL MEDICINE FELLOWSHIPS**

The Institute of Industrial Health of the University of Cincinnati will accept applications for a limited number of Fellowships offered to qualified candidates who wish to pursue a graduate course of instruction in preparation for the practice of Industrial Medicine. Any registered physician who is a graduate of a Class A medical school and who has completed satisfactorily at

least two years of training in a hospital accredited by the American Medical Association may apply for a Fellowship in the Institute of Industrial Health. (Service in the Armed Forces or private practice may be substituted for one year of training.)

The course of instruction consists of a two-year period of intensive training in Industrial Medicine, followed by one year of practical experience under adequate supervision in industry. Candidates who complete satisfactorily the course of study will be awarded the degree of Doctor of Industrial Medicine.

During the first two years, the stipends for the Fellowship vary, in accordance with the marital status of the individual, from \$2,100 to \$3,000. In the third year the candidate will be compensated for his service by the industry in which he is completing his training.

A one-year course, without stipend, is also offered to qualified applicants.

Requests for additional information should be addressed to the Institute of Industrial Health, College of Medicine, Eden and Bethesda, Cincinnati 19, Ohio.

### **MINNESOTA SOCIETY OF NEUROLOGY AND PSYCHIATRY**

The Minnesota Society of Neurology and Psychiatry was held at the Town and Country Club in Saint Paul, November 11. Officers elected for the coming year were Dr. Alan Challman, Minneapolis, president; Dr. A. B. Baker, Minneapolis, vice president, and Dr. Royal C. Gray, Minneapolis, secretary-treasurer.

Dr. Joseph A. Resch spoke on "An Unusual Anomaly of the Spinal Cord," and Dr. Werner Simon on, "The Diagnosis of Brain Tumor Masked by Mental Symptoms," at the scientific program which followed the meeting.

### **NEW ORLEANS GRADUATE MEDICAL ASSEMBLY**

The sixteenth annual meeting of The New Orleans Graduate Medical Assembly will be held March 2-5, 1952, with headquarters at the Municipal Auditorium.

Eighteen outstanding guest speakers will participate and their presentations will be of interest to both specialists and general practitioners. In addition, the program will include a symposium on "The Value of Newer Drugs," daily demonstrations of medical and surgical procedures in color television, clinico-pathological conferences, medical motion pictures, over 100 technical exhibits and three roundtable luncheons.

The Assembly has planned another interesting post-clinical tour to follow the 1953 meeting in New Orleans. On Saturday, March 7, a party composed of doctors and their families will leave New York for Europe on the great new superliner, *S. S. United States*. The itinerary includes England, France, Switzerland and Italy, and arrangements have been made for medical programs in these countries. The tour ends in Rome and the group

*(Continued on Page 1154)*



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## REPORTS AND ANNOUNCEMENTS

### NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

(Continued from Page 1152)

will return to New York on March 31 by Pan American World Airways, *President Special*.

Details of the New Orleans meeting and the post-clinical tour are available at the office of the Assembly, Room 103, 1430 Tulane Avenue, New Orleans 12, Louisiana.

### PAN-PACIFIC SURGICAL CONGRESS

The executive office of the Pan-Pacific Surgical Association announces that the Sixth Pan-Pacific Surgical Congress will be held in Honolulu in November, 1954.

Included in the scientific program will be sessions in all divisions of surgery and related fields, with papers presented by topflight surgeons from the Pacific Area countries.

For further information concerning the Sixth Congress or membership in the Association, doctors may write to the Pan-Pacific Surgical Association, Suite 7, Young Building, Honolulu, Hawaii.

### POSTGRADUATE WORK IN VIENNA

The reorganization of the American Medical Society of Vienna has made possible arrangements for American doctors to take postgraduate training at the University of Vienna. In conjunction with the University of Vienna, Academy of Medicine, the Society will be able to arrange specialized postgraduate courses to fit the individual requirements of United States' doctors and those of other

English-speaking countries. Tuition and other expenses will depend on the length and type of study arranged, but will generally be less than the usual charges for such studies elsewhere. Facilities should be ready by April 1, 1953. All correspondence should be directed to Dr. M. Arthur Kline, Vienna Academy of Medicine, c/o Allgemeines Krankenhaus, Direktionsgebäude, 2. Stock, Vienna IX, Alserstrasse 4.

### THE HENNEPIN COUNTY TUBERCULOSIS ASSOCIATION

The rôle of the physician in tuberculosis control is the main theme of the new series of "The Constant Invader," now being broadcast Sundays at 4:15 p.m. by WCCO. Edward Arnold, stage and screen star, is the narrator.

The fifteen-minute transcribed programs, sponsored by the Hennepin County Tuberculosis Association, and produced by the National Tuberculosis Association, are based on true stories of men and women who have fought personal battles with TB.

The series, which began October 12, will continue for thirteen weeks.

### CONTINUATION COURSES

A continuation course in *Pediatric Neurology* will be presented by the University of Minnesota from January 26 to 31, 1953. The course, which will be held at the Center for Continuation Study on the University campus,

(Continued on Page 1156)

## ANNOUNCING The Sixteenth Annual Meeting of THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY Conference Headquarters — Municipal Auditorium MARCH 2-5, 1953

### GUEST SPEAKERS

J. Lamar Callaway, M.D., Durham, N. C.  
Dermatology  
A. H. Aaron, M.D., Buffalo, N. Y.  
Gastroenterology  
Herbert E. Schmitz, M.D., Chicago, Ill.  
Gynecology  
Carl V. Moore, M.D., St. Louis, Mo.  
Hematology  
Rudolph H. Kampmeier, M.D., Nashville, Tenn.  
Internal Medicine  
Henry A. Schroeder, M.D., St. Louis, Mo.  
Internal Medicine  
Guy L. Odom, M.D., Durham, N. C.  
Neurosurgery  
Andrew A. Marchetti, M.D., Washington, D. C.  
Obstetrics  
Harold F. Falls, M.D., Ann Arbor, Mich.  
Ophthalmology

J. Vernon Luck, M.D., Los Angeles, Calif.  
Orthopedic Surgery  
G. Edward Tremble, M.D., Montreal, Can.  
Otolaryngology  
Arthur P. Stout, M.D., New York, N. Y.  
Pathology  
Waldo E. Nelson, M.D., Philadelphia, Pa.  
Pediatrics  
Edward B. D. Neuhauser, M.D., Boston, Mass.  
Radiology  
George Crile, Jr., M.D., Cleveland, Ohio  
Surgery  
Robert E. Gross, M.D., Boston, Mass.  
Surgery  
Charles W. Mayo, M.D., Rochester, Minn.  
Surgery  
Wyland F. Leadbetter, M.D., Boston, Mass.  
Urology

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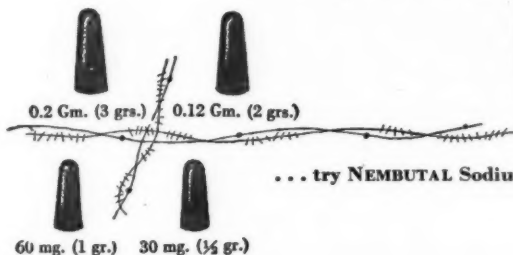
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## REPORTS AND ANNOUNCEMENTS

### CONTINUATION COURSES

(Continued from 1154)

will appeal to pediatricians, neurologists, and physicians engaged in general practice. A partial list of subjects to be discussed includes the convulsive disorders, infectious neurological diseases, brain tumors in childhood, and subdural hematoma. The faculty will include Dr. Paul C. Bucy, Professor, Department of Neurology and Neurological Surgery, University of Illinois; Dr. Margaret H. D. Smith, Assistant Professor, Department of Pediatrics, Tulane University; and Dr. Douglas Buchanan, Associate Professor, Department of Pediatrics, University of Chicago. The course will be presented under the direction of Dr. Irvine McQuarrie, Professor and Head, Department of Pediatrics, and the remainder of the faculty will include clinical and full-time members of the staff of the University of Minnesota Hospitals and the Mayo Foundation.

\* \* \*

The University of Minnesota will present a continuation course in *Ophthalmology for Specialists* at the Center for Continuation Study from January 19 to 24, 1953. Emphasis will be placed throughout the session on therapy of a variety of ocular disorders.

The visiting faculty for the course will include Dr. Kenneth C. Swan, Professor and Head, Department of Ophthalmology, University of Oregon Medical School, Portland. The course will be presented under the direction of Dr. Erling W. Hansen, Professor and Director,

Division of Ophthalmology, and the remainder of the faculty will include members of the staff of the University of Minnesota Medical School and the Mayo Foundation.

\* \* \*

A continuation course in *Clinical Chemistry for Physicians* will be presented by the University of Minnesota next February 2-4. The two-and-a-half-day session, which will be held in the Center for Continuation Study and the University of Minnesota Hospitals Laboratories, has been designed to help the physician in setting up and supervising laboratory procedures in his own office or local hospital. Attendance will be strictly limited, and instruction will consist principally of actual experience at the Laboratory benches. Dr. Gerald T. Evans, Director of Hospital Laboratories, and Professor, Department of Medicine, will be in charge of instruction.

\* \* \*

Minnesota physicians met at the University of Minnesota's Center for Continuation Study Thursday (Nov. 13) for a three-day meeting on *Fractures and Surgery of Trauma*.

Evaluation of injuries from the medico-legal standpoint and a symposium on the seriously injured patient were special features of the program. Two visiting lecturers spoke at the sessions—Dr. Carroll B. Larson, chief of service, department of orthopedic surgery, State University of Iowa, Iowa City, and Dr. Edward L. Comper, professor of bone and joint surgery, Northwestern University Medical School, Chicago.

The course was under the direction of Dr. Owen H. Wangenstein, chairman of the University's surgery department, and Dr. Wallace H. Cole, professor and director of the division of orthopedic surgery. Some of the discussions will be led by members of the University medical school faculty.

### Cook County Graduate School of Medicine

#### POSTGRADUATE COURSES—Winter 1952-53

**SURGERY**—Intensive Course in Surgical Technic, two weeks, starting January 19, February 2, February 16  
Surgical Technic, Surgical Anatomy & Clinical Surgery, four weeks, starting March 2  
Surgical Anatomy & Clinical Surgery, two weeks, starting March 16  
Basic Principles in General Surgery, two weeks, starting March 23  
Gallbladder Surgery, ten hours, starting April 20  
Surgery of Colon and Rectum, one week, starting March 2  
General Surgery, one week, starting February 9  
General Surgery, two weeks, starting April 20  
Fractures and Traumatic Surgery, two weeks, starting March 2  
**GYNECOLOGY**—Intensive Course, two weeks, starting February 16  
Vaginal Approach to Pelvic Surgery, one week, starting March 2  
**OBSTETRICS**—Intensive Course, two weeks, starting March 2  
**PEDIATRICS**—Intensive Course, two weeks, starting April 6  
**MEDICINE**—Intensive General Course, two weeks, starting May 4  
Electrocardiography & Heart Disease, two weeks, starting March 16  
Allergy, one month and six months, by appointment  
**UROLOGY**—Intensive Course, two weeks, starting April 13  
Ten-Day Practical Course in Cystoscopy starting every two weeks  
**DERMATOLOGY**—Intensive Course, two weeks, starting May 4

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### PAMPHLETS ON MULTIPLE SCLEROSIS PROBLEMS AVAILABLE

The National Multiple Sclerosis Society has announced that a series of pamphlets dealing with the problems of physical medicine and rehabilitation in multiple sclerosis is available at no cost to physicians who wish to have them. The four pamphlets are directed for the care of independent ambulatory patients, those requiring canes or crutches, wheel chair patients and bed patients. Physiotherapy has more to offer these patients than any known drugs.

### MEDICAL MOTION PICTURES

The Committee on Medical Motion Pictures has announced the publication of a new revised film list which includes seventy-eight medical films not readily available from other sources.

This list will be available for distribution after December 1, 1952. A copy may be obtained by writing the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10.



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DECEMBER, 1952

1157

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# Woman's Auxiliary

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## **RAMSEY AUXILIARY BEGINS FALL WORK** **Mrs. Wallace P. Ritchie**

The members of the Ramsey County Medical Auxiliary have assumed many responsibilities for projects during the year.

On Friday, October 24, they staffed a booth devoted to poliomyelitis at the Minnesota Education Association convention in Saint Paul. The delegates showed a great deal of interest in the part that schools can plan in stamping out polio.

On Monday, October 27, members were shown an American Medical Association film, "Here's Health—the American Way," dealing with the problems of doctors in both rural and urban centers.

On November 5, the Auxiliary worked at the Christmas Seal headquarters stuffing envelopes for the annual sale of Christmas seals, and on the same day helped with the registration of Saint Paul women for Civilian Defense at two meetings of the Women's Institute.

## **SCHOOL OF INSTRUCTION WELL ATTENDED** **Mrs. Leonard Arling**

Last October 10, some 100 women from all over the state gathered at the Hotel Saint Paul to attend a School of Instruction meeting on how to improve the relations of local medical auxiliaries with other organizations and individuals in the state.

After a short Board meeting, a Public Relations Panel, handled by experts in their own field, told Auxiliary members exactly where the doctor and his wife fall down in this extremely important aspect of their life.

The use of exhibits as an Auxiliary tool in public relations was discussed by Wallace Fulton, Acting Director, Division of Public Health Education, Minnesota Department of Health, who presented a few rules:

1. Get across one main idea. Brevity is important. Get kernel of the idea across in a few words.
2. The idea must get across in forty to seventy seconds, the length of time the average exhibit viewer looks at an exhibit.
3. Your exhibit must pertain to problems in your district. Use an art teacher, a store window dresser, or a manual training teacher to help plan and make it up.
4. Color, lighting, motion are necessary to a good exhibit.

The press side of the story was told by Victor Cohn, science writer for the *Minneapolis Tribune*, who said, "Tell your story accurately, simply. Local doctors should act as spokesmen, experts in the field for local medical

problems. Present the health problems. Don't try just to get names in. The public is not interested in what you say, but in what you do."

Jim Borman, News Director for WCCO, told auxiliary members that both newsmen and doctors' wives must be patient and long-suffering. He felt that the doctor's wife must gossip less than most women, because she seems worried and tired. She must be broadminded, never jealous. However, he felt, doctors' wives seem to strive socially too much, and not enough in their community for humble, civic duties. They should emulate their husbands who give unceasingly of their time and strength for others. Their wives should have a stronger sense of civic responsibilities.

Mrs. Lewis Minion, Home and Community Director of the Minnesota Farm Bureau Federation, represented other organizations on the panel. She noted, "We are not political, but show what the common people can do working for health without government help and interference. We are definite, violent opponents of any type of socialized medicine. We are pioneers in Blue Cross and Blue Shield. We promote practical nursing. . . ."

The luncheon speaker was Senator Edward J. Thye, who spoke on the need of the world for a great diplomat as United States president. He stated that for what the boys win by their blood on the battlefield America repeatedly loses by blunders at the diplomatic conference table. The United States must have the confidence of the world, he said, that it does know where it is going, or America will lose the world leadership, which will fall into Russia's waiting hands.

Mrs. James McDonnough, Chicago, fourth vice president of the Woman's Auxiliary to the American Medical Association, spoke on membership. She stated, "We want 5,000 new members this year. Coming together, beginning, planning together, making progress, working together is success. Our 60,000 national members must work and fight together; every woman should have a specific job to make her work, and gain her friends. As Emerson said, 'Nothing was ever achieved without enthusiasm.'"

Mrs. Harold F. Wahlquist, past president of the Woman's Auxiliary to the American Medical Association, reported on the Minnesota Public Health Conference. She felt that it is up to the Auxiliary to see a health need, emphasize it, until lay people see it, grab it and carry on with it. There are nearly 12 million people over sixty-five years of age in Minnesota—more than in California or Florida. Minnesota is now an urban state, not rural. The Auxiliary should work so that local levels solve their own problems. It is important that old people be made self-sufficient and independent.

Following this, round tables on eight aspects of Auxiliary work were held.

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FLUORINE.....	3.0 mg.	*NIACIN.....	6.7 mg.
*IODINE.....	0.7 mg.	PANTOTHENIC ACID.....	3.0 mg.
*IRON.....	12 mg.	PYRIDOXINE.....	0.6 mg.
MAGNESIUM.....	120 mg.	*RIBOFLAVIN.....	2.0 mg.
MANGANESE.....	0.4 mg.	*THIAMINE.....	1.2 mg.
*PHOSPHORUS.....	940 mg.	*VITAMIN A.....	3200 I.U.
POTASSIUM.....	1300 mg.	VITAMIN B <sub>12</sub> .....	0.005 mg.
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## In Memoriam

### JOHN S. GROGAN

Dr. John S. Grogan, since 1925 a practitioner at Wadena, Minnesota, died October 21, 1952, of a heart attack. He was seventy-two years of age.

Dr. Grogan was born at Streator, Illinois, September 24, 1880. He graduated from Knox College with a B.S. degree in 1904 and was prominent in undergraduate baseball and football activities. A fifty-five-yard drop kick for a goal against the University of Illinois should be recorded. He gave up a successful coaching career at Fargo and the University of Idaho to begin the study of medicine at Northwestern University at the age of twenty-nine. He graduated in 1914.

After interning at the Kenmore, North Dakota, hospital he practiced in this town a year and in Flaxton, North Dakota, from 1915 to 1925 before joining the Wadena Clinic in 1925. Dr. Grogan left the clinic in 1948 but joined the Red Cross Mobile unit during the summer of 1951, travelling throughout Minnesota.

He was a member of Phi Beta Pi and Nu Sigma Nu fraternities and the Rotary Club of Wadena. He had served on the Wadena School Board from 1933 to 1951 and was also a member of the Fair Oakes Sanatorium Board.

He was a member of the Upper Mississippi Valley Medical Society, the Minnesota State Medical Association and the American Medical Association.

Dr. Grogan married Magna Melby of Kenmore, North Dakota, who with two daughters and a son, Dr. John M. Grogan of Denver, survives him.

### ELMER F. LUNDQUIST

Dr. Elmer F. Lundquist, a practitioner in Minneapolis since 1924, died October 19, 1952. He was fifty-nine years of age.

Dr. Lundquist was born in Minneapolis, November 29, 1892. He attended Central High School and the University of Minnesota, where he obtained a B.S. degree in 1914 and an M.D. degree in 1918. He interned at the U.S. Naval Hospital at Great Lakes from 1919 to 1924, when he returned to Minneapolis.

He was a member of the Alpha Kappa Kappa medical fraternity and attended Westminster Presbyterian Church. He was also a member of the Hennepin County Medical Society, the Minnesota State Medical Association and the American Medical Association. At one time he served as chief of staff of Swedish Hospital.

Dr. Lundquist is survived by his wife and a son, Dr. James A. Lundquist, now living in Alaska.

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Laboratory Fees in Hospital.....	5.00	10.00	15.00	20.00
Operating Room in Hospital.....	10.00	20.00	30.00	40.00
Anesthetic in Hospital.....	10.00	20.00	30.00	40.00
X-Ray in Hospital.....	10.00	20.00	30.00	40.00
Medicines in Hospital.....	10.00	20.00	30.00	40.00
Ambulance to or from Hospital.....	10.00	20.00	30.00	40.00
<b>COSTS (Quarterly)</b>				
Adult .....	2.50	5.00	7.50	10.00
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## Communication

Fort Snelling, Minnesota  
20 October, 1952

To the Editor:

The item headed "Medical Services for Military Personnel" on page 976 of your October, 1952, issue was read with interest and makes a fine contribution in assisting local civilian physicians and hospitals in obtaining compensation for services rendered to active duty military personnel.

The basic premises of the item are well founded and apply to military personnel of the Air Force as well as those of the Army. However, the item as published conveys the erroneous impression that the Chief of the Minnesota Military District is responsible for military personnel of all three Military Departments in this regard.

In order to correct this erroneous impression and to aid your physician and hospital readers in obtaining prompt payment of fees for services rendered to active duty Air Force personnel, the following procedures are recommended:

(a) Upon identifying the patient as an active duty member of the Air Force notify the Commanding Officer of the nearest Air Force Station by collect telephone or telegram or by letter, giving the patient's name, rank, service number, the designation and post office address of the unit to which he is assigned, the diagnosis and the immediate prognosis. Include in your message a request that you be furnished written authority to continue the emergency treatment and instructions as to the ultimate disposition of the patient.

(b) Physicians and hospitals located in areas where there is no closer Air Force Station in Minnesota, the western half of Wisconsin, north Central Iowa, Eastern South Dakota, and North Dakota may address their written communications to the nearest listed below:

Commanding Officer, 72nd Air Base Squadron, Fort Snelling, Saint Paul 11, Minnesota.

Commanding Officer, 73rd Air Base Squadron, Williamson-Johnson, Municipal Airport, Duluth, Minnesota.

Commanding Officer, 78th Air Base Squadron, Truax Field, Madison, Wisconsin.

Commanding Officer, 79th Air Base Squadron, Sioux City Municipal Airport, Sioux City, Iowa.

(c) Telephone calls should be routed to the Surgeon at each of the above addresses.

Upon request, this office will furnish further information to assist any physician, dentist, pharmacist or hospital in this area to obtain prompt payment for services rendered to active duty Air Force personnel.

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## ◆ Of General Interest ◆

**Dr. Winchell McKendree Craig**, professor of neurosurgery in the Mayo Foundation at Rochester, Minnesota, was installed president of the Association of Military Surgeons of the United States at its annual meeting on November 19. He succeeds Major General Harry G. Armstrong, Surgeon General of the United States Air Force. Dr. Craig, a Rear Admiral in the United States Naval Reserve, was born in Washington Court House, Ohio, graduated from Culver Military Academy and Ohio Wesleyan University and received his medical degree from Johns Hopkins in 1919. He entered active duty with the Navy as Rear Admiral and was Chief of Surgery at Corona Naval Hospital, California, and at the National Naval Medical Center at Bethesda, Maryland.

\* \* \*

**Dr. Walter C. Alvarez** of Chicago, formerly a gastroenterologist and teacher at the Mayo Foundation, University of Minnesota, has been honored as recipient of the first Honor Award to be given by the American Medical Writer's Association. The award, consisting of a gold medal and certificate, was presented to Dr. Alvarez at the dinner on the occasion of the 9th annual meeting of the Association at the Jefferson Hotel, St. Louis, Missouri, October 1, 1952. Dr. Alvarez is Editor-in-Chief of *Modern Medicine* and professional lecturer at the University of Illinois College of Medicine.

\* \* \*

**Dr. Stephen E. Kramer**, staff member at Anoka State Hospital, left October 6, to practice psychiatry on the staff of the hospital at Crownsville, Maryland.

\* \* \*

**Dr. John Towey**, medical director of Pinecrest Sanatorium, Powers, Michigan, formerly of Stillwater, was awarded the Dearholt medal for outstanding achievement in tuberculosis work.

The award was presented at the Mississippi Valley Conference on Tuberculosis at St. Louis, Missouri. Presenting the award was a former Minnesotan, **Dr. John H. Skavlem**, Cincinnati, Ohio.

Minneapolis was selected for the October, 1953, conference.

\* \* \*

At the annual meeting of the American Society of Plastic and Reconstructive Surgery held in New York in September, **Dr. Merrill D. Chesler**, Minneapolis, was admitted as a candidate member.

\* \* \*

**Dr. M. M. Williams** has been recently appointed superintendent of the Minnesota State Sanatorium at Ah-Gwah-Ching.

\* \* \*

Financial support for at least one more year was voted for the Minnesota Cancer Detection Center, October 14. The board of directors of the American

Cancer Society's Minnesota Division voted to grant \$20,000 and agreed, in principle to "continue the entire program for three years subject to budget limitations."

\* \* \*

**Dr. C. G. Uhley**, Crookston, was re-elected the group's president and **Dr. David P. Anderson, Jr.**, Austin, was named second vice president.

\* \* \*

Three new consultants—**Dr. James K. Masson**, **Dr. Kenneth A. Huizenga** and **Dr. Robert T. Patrick**—were named to the Mayo Clinic staff at the beginning of fall quarter.

\* \* \*

**Dr. Gaylord W. Anderson**, director, School of Public Health, University of Minnesota, addressed the North Dakota Public Health Association convention, October 11, held at Grand Forks, North Dakota.

\* \* \*

**Dr. Robert B. Pierce**, Renville, spoke on the effect of poliomyelitis on the local community, October 6, to the Ladies Auxiliary Unit of the Renville County Hospital Association, who were guests of the Bird Island Unit for the meeting.

\* \* \*

**Dr. Kristopher Hagen**, who returned in June from serving with the Santal Mission in India, and is now practicing in Cokato, was a guest speaker at the First Lutheran Church at Columbia Heights, October 12.

\* \* \*

After almost three months of touring seven European countries, **Dr. and Mrs. O. J. Seifert**, returned to New Ulm in October.

\* \* \*

**Dr. Gordon B. New**, retired chief of plastic surgery at the Mayo Clinic, was awarded a silver plaque, September 30, in honor of his contribution to the field of plastic surgery, at a meeting of the American Society of Plastic and Reconstructive Surgery in New York.

\* \* \*

**Dr. S. F. Cepelcha**, Redwood Falls, was the main speaker at the monthly meeting of the Renville-Redwood Medical Society held October 8.

\* \* \*

**Dr. O. A. Wisness**, Confrey, received his student pilot's license in October. Dr. Wisness made his first solo flight after eleven hours of flying time.

\* \* \*

New president of the Wabasha County Medical Society is **Dr. E. C. Bayley**, Lake City. Dr. Bayley succeeds **Dr. Doreen Martin**, Pepin, formerly of Wabasha. Other officers named at the meeting were **Dr. C. G. Ochsner**, Wabasha, vice president and **Dr. W. F. Wilson**, Lake City, secretary-treasurer.



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**Dr. W. E. Archer** joined the psychiatric staff of the Anoka State Hospital, October 1. Dr. Archer was graduated from Marquette University in 1926; he later did postgraduate work in neurology and psychiatry at the Veterans Administration Hospital at Hines, Illinois, and has recently been in practice at Dale, Wisconsin.

\* \* \*

**Dr. H. L. Smith** was retired from the staff of the Mayo Clinic in September and is now enjoying what he says is the first opportunity to do a number of things which lack of time have never permitted him to do.

Dr. Smith has been successively a consultant in internal medicine; professor of medicine in the Mayo

Foundation, graduate school, University of Minnesota; head of a section of medicine in the Mayo Clinic and senior consultant in the division of medicine.

\* \* \*

**Dr. Elmer Martinson**, Wayzata, became a Fellow in the American College of Surgeons, September 26, at the meeting in New York.

\* \* \*

**Dr. William S. Terry**, Minneapolis, was inducted into the navy and assigned to the Portsmouth Naval Hospital, Portsmouth, Virginia, in October.

\* \* \*

New clinic quarters for **Drs. David O. Berge** and **Gilbert S. Wheeler** were recently finished in Roseau.

## OF GENERAL INTEREST

**Dr. A. Mahowald**, who has been serving the community for more than thirty years, left Albany, November 1, to accept a position at the State Hospital in Fergus Falls. Businessmen and social organizations honored Dr. Mahowald at a banquet October 23.

\* \* \*

**Dr. Arthur Collins**, after four years of service at the State Hospital at Moose Lake, left in October to begin private practice in Duluth. His offices are in the Medical Arts Building.

\* \* \*

**Dr. Hugh A. Johnson** and family left Rochester, October 15, for a nine-month trip abroad. The Johnsons plan to remain in England until after the coronation.

\* \* \*

An orthopedic clinic sponsored by the crippled children services of the State Division of Social Welfare was held at Little Falls, November 1. There will be only six clinics this fall, instead of the usual ten of the fall series because of the shortage of public health nurses.

**Dr. F. F. Callahan**, chief of the medical services, State Division of Social Welfare, reminds physicians that any child, to be examined at any of the field clinics, must have a referral from his family physician.

\* \* \*

**Dr. John G. Rukavina** became a member of the medical staff of the Mesabi Clinic at Hibbing, in October. Dr. Rukavina is a graduate of the Univer-

sity of Minnesota and has been certified as a specialist in Internal Medicine. He formerly practiced in Saint Paul.

\* \* \*

**Drs. R. G. Bickford, E. C. Clark and David Daly** of the Mayo Clinic staff, attended and presented papers at a meeting of the Central Electroencephalographers Society in Madison, Wisconsin, October 18-19.

\* \* \*

State hospital appointments of October 16, named **Dr. John Reitmann**, permanent superintendent of Anoka State Hospital and **Dr. Kenneth Douglas**, permanent superintendent of Sandstone State Hospital. Dr. Reitmann had been serving as superintendent of both the Sandstone and the Anoka Hospitals for three months.

Dr. Reitmann received his medical degree from the University of Minnesota. From 1945 to 1947, he served in the Army Medical Corp, spending nine months of this time in Germany working on an army discharge screening board. Following his army discharge, Dr. Reitmann was a psychiatrist at Hastings State Hospital until he became acting superintendent at Sandstone State Hospital in July of 1950.

Dr. Douglas, formerly clinical director at the Willmar State Hospital, received his medical degree from the University of Minnesota. From 1940 to 1949, he was in private practice at Tacoma, Washington, and in 1949, St. Peter. During 1950, and until he was appointed clinical director, Dr. Douglas was on the staff at the Willmar State Hospital.



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**Dr. W. C. Kaufman** was honored by the Appleton Saddle Club, October 10, at a Horse "Show-Deo." Recently Dr. Kaufman sold the old hospital he built nearly forty-five years ago to the village and thus paved the way for construction of the new hospital which was completed and opened last year. Proceeds from the show will be used to provide accessories for the new community hospital.

\* \* \*

A special homecoming program, arranged for physicians by the University of Minnesota and the Minnesota Medical Alumni Association, was held at the University October 30-November 1.

A course in medical economics was presented October 30 and 31. **Dr. Charles G. Sheppard**, Hutchinson, speaker of the House of Delegates of the Minnesota State Medical Association, spoke on the medical school in relation to medical practice in the state, October 31. A part of the program featured **Dr. James R. Fox**, recently returned from a three-month visit to Great Britain where he was a practicing physician, in a special lecture on "Inside the British Health Plan."

Various clinics presenting patients with surgical, medical, pediatric, gynecological and dermatologic disorders were held.

\* \* \*

**Dr. Albert John Schroeder**, Minneapolis, was elected to fellowship in the American Academy of Pediatrics in November.

**Dr. Elizabeth Leggett** resigned her position on the medical staff at the state sanatorium, Ah-Gwah-Ching, October 1. Dr. Leggett will devote her time to clinics at the Indian Hospitals at Cass Lake, Red Lake and White Earth. Her main office is in Cass Lake.

\* \* \*

Several Mayo Clinic staff members attended meetings throughout the country recently.

**Dr. K. W. Bruce** attended a meeting of the American Academy of Oral Pathology at Washington, D. C., and participated in a mid-year symposium on bone tumors and diseases, October 18.

**Dr. L. C. Kolb** attended a meeting on psychiatry with the Ad Hoc Committee on Stress and a meeting of the Division of Medical Sciences of the National Research Council in Washington, D. C., October 18.

**Dr. E. T. Leddy** was at a meeting of the American Cancer Society, October 20-21.

**Drs. G. B. Logan** and **S. D. Mills** attended a meeting of the American Academy of Pediatrics in Chicago, the week of October 19.

\* \* \*

In connection with his work with the Minnesota Mental Health research laboratory at Hastings, **Dr. Henry Vai Meier**, Stillwater, recently spent several days visiting the research laboratories of the M. D. Anderson Cancer Station at Houston, Texas.

## OF GENERAL INTEREST

**Dr. A. I. Balmer** addressed the Pipestone Parent Teachers Association, October 14, on the 1952 polio outbreak in Minnesota.

\* \* \*

**Dr. M. Duane Sommersness**, former North Dakota State psychiatrist, and **Dr. Frithjof Sorum**, private practitioner at Jasper, joined the staff of the Willmar State Hospital in November. Two other medical workers to join the staff in November also were Ole T. Omlid as the chief psychiatric social worker and Curtis W. Page, a clinical psychologist.

\* \* \*

Open house was held in the new doctors building in Lyle where **Dr. Conrad B. Frydenlund**, of Hayward began practice in his local community, October 25.

\* \* \*

**Dr. C. W. Mayo**, Rochester, was one of eighteen Minnesotans appointed to national American Legion commissions, committees and boards for the coming year. Dr. Mayo's appointment as assistant chief medical advisor to the rehabilitation medical advisory board was announced October 22.

\* \* \*

**Dr. Mary C. Ghostley**, superintendent of Lake Julia Sanatorium at Puposkey for nineteen years, will retire in 1953 and the sanatorium will be sold or used for other purposes.

\* \* \*

**Dr. Sumner S. Cohen**, assistant medical director at Glen Lake Sanatorium, spoke on the changing age trend of tuberculosis, at the Thirty-fifth Annual meeting of the American Dietetic Association in Minneapolis, October 21-24.

\* \* \*

**Dr. Stanley V. Lofness**, consultant pathologist of St. Lucas Deaconess Hospital, Faribault, addressed an open meeting of the Hospital Auxiliary Assembly October 22, on the work of the pathologist, especially in reference to cancer.

\* \* \*

Helping the city to celebrate its "Health Days," **Dr. C. E. Carlson** of the Alexandria Clinic addressed the Parent Teachers Association on heart diseases, October 20.

Members of the professional staffs of the Mayo Clinic and the Rochester State Hospital who participated in the meeting of the American Dietetic Association, held in Minneapolis, October 21-24, were: **Drs. J. A. Borgen** and **Clifford F. Gastineau**, Mayo Clinic; John S. Pearson, clinical psychologist at the Rochester State Hospital, and Sister Mary Victor, director of the department of nutrition at Saint Mary's Hospital.

More than 175 members of the Association met for "Rochester Day" at Rochester, October 25, following the Minneapolis meeting. During the program **Dr. Donald C. Balfour**, director emeritus of the Mayo Foundation for Medical Education and Research, spoke on the medical center of Rochester; interested persons attended tours of the Mayo Clinic and associated institutions which contribute to the care of patients; for dietitians who served their internship at Saint Mary's Hospital, an alumni dinner was served at the hospital.

\* \* \*

Guest speakers at the pathological conferences on cancer and heart diseases held at Saint Lukes Hospital in Alexandria were **Dr. Arthur C. Kerkhof**, Clinical Associate Professor, Department of Medicine, University of Minnesota, October 20, and **Dr. Ivan Baronofsky**, Associate Professor of Medicine at the University, November 11.

\* \* \*

**Dr. James M. A. Weiss**, formerly of Minneapolis, recently completed a one-week appointment as Consultant in Psychiatry to the New York State Mental Health Commission, in Syracuse, New York. Dr. Weiss served as supervising interviewer and took part in the analysis of research data gathered in a mass survey project, designed by Dr. Ernest M. Gruenberg, Executive Director of the Commission, to determine the prevalence of mental illness in the older population groups.

Dr. Weiss was graduated from the University of Minnesota and its Medical School. Formerly Teaching Assistant in Psychology at St. Thomas College, he has served as Assistant Surgeon (R) in the U. S. Public Health Service, and as Fellow of the National Institute of Mental Health in Psychiatry and Public Health at Yale University. He now holds an ap-

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pointment as Senior Resident in Neuropsychiatry, under the U.S.V.A.-Yale University Training Program, at New Haven Hospital.

\* \* \*

**Dr. Inman A. Helsa** joined the Austin Clinic in October. Dr. Helsa was graduated from Southwestern Medical College, Dallas, Texas, in 1950, and recently completed his internship at Charles T. Miller Hospital, Saint Paul.

\* \* \*

**Dr. Walter B. Wells**, Jackson, was elected president of the Southwestern Minnesota Medical Society at the annual meeting held at the Country Club in Pipestone, October 27. Other officers named were **Dr. L. J. Hoyer**, Windom, president-elect; **Dr. A. I. Balmer**, Pipestone, vice president, and **Dr. O. M. Heiberg**, Worthington, secretary. **Drs. B. M. Stevenson**, Fulda, and **Dr. E. W. Arnold**, Adrian, were named to the office of censors.

**Dr. E. D. Henderson**, Mayo Clinic, spoke on the treatment of Oster-Arthritis.

\* \* \*

Four "Top Flight GP's" were named at the annual refresher course of the Minnesota Academy of General Practice, held at the Radisson Hotel, Minneapolis, October 29. The doctors thus honored were **Dr. Roger G. Hassett**, Mankato; **Dr. Albert E. Ritt**, Saint Paul; **Dr. Aaron Friedell**, Minneapolis; and **Dr. Willis L. Herbert**, Minneapolis.

The citations were made "on the basis of the

quality of their work, the esteem of their colleagues and their work for the academy," **Dr. James A. Blake**, Hopkins, president, said.

Speakers at the course included: **Dr. Philip Thorek** and **Dr. Philip Lewin** of Chicago; **Dr. A. C. Corcoran**, Cleveland; **Dr. E. V. Allen**, Rochester; and **Drs. Cecil Watson**, **E. T. Bell** and **Raymond Bieter** of the University of Minnesota.

\* \* \*

**Dr. and Mrs. Theodore H. Sweetser**, Minneapolis, have a new son, **Paul Anthony**, born October 11.

\* \* \*

**Dr. William Bernard Halme**, Brainerd, was inducted into the army, November 28.

\* \* \*

The Minnesota Society of Internal Medicine held its annual fall meeting at Rochester, October 27. Physicians who gave papers were: **Drs. L. O. Underdahl**, **Talbert Cooper**, **J. M. Stickney**, **G. L. Pease**, **R. G. Tompkins**, **D. C. Connolly**, **E. H. Wood**, **H. B. Burchell**, **J. W. Kirklin**, **Thomas W. Parkin**, **Ian E. Rusted**, **Jesse E. Edwards**, **M. H. Stauffer**, **R. M. Salassa**, **J. C. Cain**, **S. Y. Jordan**, **M. W. Comfort**, **H. K. Gray** and **W. F. Kvale**.

\* \* \*

**Dr. Donald C. Balfour**, emeritus director of the Mayo Foundation, spoke on "Medical Eras," to the twelfth annual dinner meeting of the Olmstead County Historical Society, October 21.

# OF GENERAL INTEREST

**Dr. Roger L. J. Kennedy**, Mayo Clinic pediatrician, was elected vice president of the American Academy of Pediatrics at the twenty-first annual meeting of the academy in Chicago, October 23.

\* \* \*

**Dr. George E. Moore**, associate professor at the University of Minnesota Medical School, was named director and chief of surgery at the Roswell Park Memorial Institute at Buffalo, New York, in November.

The Roswell Institute, a cancer hospital and research center, is affiliated with the University of Buffalo Medical School where **Dr. John Paine**, former University of Minnesota surgeon, is surgery chief.

\* \* \*

**Dr. W. G. Workman** spoke to the members of the Tracy Kiwanis Club October 16, on the county-wide tuberculosis testing program.

\* \* \*

**Dr. Paul F. Brabec**, Detroit Lakes, located in Bagley November 1. Dr. Brabec is a native Minnesotan,

born at Perham. He was graduated from Iowa State University Medical School and completed his internship at Saint Mary's Hospital, Minneapolis. He has done graduate work in surgery at Rochester in addition to serving in the army during World War II and practicing with his father in Perham.

\* \* \*

**Dr. John F. Briggs**, Saint Paul, president of the Minnesota Society for Internal Medicine, spoke on the medical achievements in treatment of heart diseases to the Saint Paul Rotary Club, November 4.

\* \* \*

**Dr. Lillian Olson**, staff, Ah-Gwah-Ching Sanatorium, returned to work after several weeks' vacation.

\* \* \*

**Dr. C. S. Youngstrom**, Eveleth, recently joined **Drs. C. W. Jacobson** and **L. T. O'Brien** in the Breckenridge Clinic. Dr. Youngstrom was graduated from the University of Nebraska College of Medicine in 1938; he specialized in surgery and neurology at the Henry Ford Hospital in Detroit, Michigan, and with the Veterans Administration. Before coming to Breckenridge, Dr. Youngstrom was in private practice at Vinton, Iowa.

\* \* \*

A three-day session on medical economics at the University of Minnesota October 30-November 1 was the first of the annual homecoming clinics to be held since World War II.

The course included topics such as physician's fees, legal aspects of medical practice, keeping of financial records and related subjects. Dr. Frank Dickinson, Chicago, director of the American Medical Association's bureau of medical economic research, was a guest lecturer.

**Dr. Charles G. Sheppard**, Hutchinson, spoke at a special University Hospital staff luncheon on "The Medical School in Relation to Medical Practice in the State."

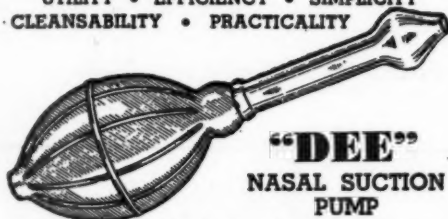
\* \* \*

**Dr. John W. Schumacher** of Minneapolis was certified in psychiatry this summer by the American Board of Psychiatry and Neurology. Dr. Schumacher is with the Minnesota Institute of Psychiatry in Minneapolis.

\* \* \*

A new journal to be known as *The Journal of Clinical Nutrition* which will be devoted to the practical application of the newer knowledge of nutrition will appear in December and bimonthly thereafter. It will cater to the family practitioner as well as the specialist. **Dr. S. O. Waife**, Director of Medical Education at Philadelphia General Hospital, is Editor-in-

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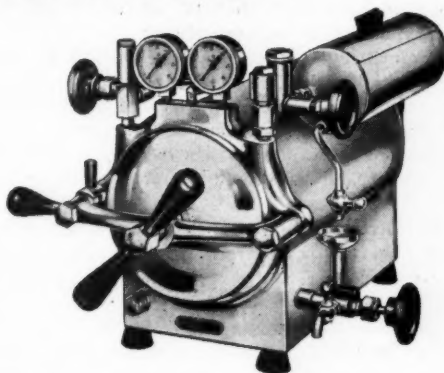
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\* \* \*

In 1948 the Arthritis and Rheumatism Foundation was formed. This is a voluntary organization to raise funds for medical research and education on a nationwide scale. In 1950, Congress authorized and the Surgeon General of the Public Health Service established, the National Foundation of Arthritis and Metabolic Diseases, primarily to conduct research and to make grants to nonfederal institutions throughout the country. The two foundations cooperate under the leadership of **Dr. Gideon K. de Forest**, Medical Director of The Arthritis and Rheumatism Foundation and **Dr. Russell M. Wilder**, Director of The National Institute of Arthritis and Metabolic Diseases.

\* \* \*

**Dr. Philip S. Hench** of Rochester, Minnesota, was the recipient of the Mississippi Valley Medical Society's Honor Award for 1952. The award, consisting of a gold medal and a certificate, was presented Dr. Hench at the banquet on the occasion of the 17th annual meeting of the society at the Jefferson Hotel, St. Louis, Missouri, October 2, 1952.

\* \* \*

The National Foundation for Infantile Paralysis is offering a limited number of fellowships in the field of public health and preventive medicine. The purpose

of these fellowships are to prepare physicians to fill the many vacancies existing in public health and preventive medicine. They are for one or more years at an approved school of public health and will be financed by March of Dimes funds. A medical degree, a year's internship and a United States citizenship are requisites for candidates. Complete information may be obtained from the Division of Professional Education, The National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

\* \* \*

**Yellow fever vaccine**, formerly made only by the Public Health Service, will be manufactured in the future by the National Drug Company of Philadelphia. Withdrawal of the government from yellow fever vaccine production is in accord with Public Health Service policy of turning over to the pharmaceutical industry the manufacture of biological products once large scale production becomes feasible. The status of clinics designated to issue yellow fever vaccine certificates is not changed and vaccination certificates must be obtained by travelers from designated clinics. The vaccine has formerly been manufactured at the Rocky Mountain Laboratory at Hamilton, Montana, a division of the National Institutes of Health.

\* \* \*

**Dr. Warren F. Wilhelm**, formerly of the Mayo Clinic, has been appointed Medical Director of Re-

## OF GENERAL INTEREST

search Clinic in Kansas City, Missouri. The clinic is chiefly a diagnostic clinic and devotes all of its efforts to clinical medicine.

\* \* \*

Open house, to be held November 9, at the Belview Medical Center, honoring a new doctor—**Dr. John Strauchler**—and opening of the new building, was delayed because of illness of the doctor. Two days before the scheduled open house Dr. Strauchler was admitted to Abbott Hospital where he had an emergency operation for appendicitis.

Dr. Strauchler, Austria, was graduated from the University of Zurich Medical School in Switzerland in 1935. He was in private practice and on the staff of a Veterans Hospital in Canada for several years before coming to Minnesota. He recently completed a year of internship at Abbott Hospital, Minneapolis.

\* \* \*

**Dr. L. H. Heinz** and **Dr. I. B. Heinz**, moved into new clinic quarters in the Hergott building in Shakopee, November 1.

\* \* \*

**Dr. Grant L. Griebie** joined **Dr. A. M. Jensen** in the Brownton Clinic at Brownton in November.

Dr. Griebie, who recently served twenty-one months in the army in the United States and Germany, was born and grew up in Brownton. He attended St. Olaf College in Northfield; received his medical degree from Northwestern University, Chicago, and interned at Cook County Hospital in Chicago.

Before he joined Dr. Jensen, Dr. Griebie was in practice with **Dr. J. D. Selmo** at Northwood.

\* \* \*

**Dr. V. G. Coseriu**, Youngstown, Ohio, joined **Dr. L. A. Veranth** in his practice at St. Cloud, in November. Dr. Coseriu received his medical education in Romania. He spent a year interning at St. Elizabeth Hospital in Youngstown and was also a surgical resident in Youngstown.

\* \* \*

**Dr. Paul H. Lober**, pathology department, University of Minnesota, was recently made a member of the American Board of Pathology.

\* \* \*

Opening practice in Buffalo Lake in November was **Dr. Daniel H. Bessesen**. Until December 1, when Dr. Bessesen moves to Buffalo Lake his practice will be on a part-time basis. Dr. Bessesen has been in practice in Minneapolis since he was separated from the army in 1945 after eighteen years of service.

## BLUE CROSS—BLUE SHIELD

A few weeks ago an internist called the Blue Shield office to inquire how he could collect medical fees for the care of in-hospital Blue Shield subscribers. He discussed three cases, in each one of which he was the initial attending physician. For none of them had he been able to collect a Blue Shield claim for in-hospital medical care. Such cases represent a real problem to both the attending doctors and Blue Shield personnel.

In each of the three instances mentioned, the surgeon or other physician called in to attend the case had sent his claim to Blue Shield before one was received from the internist. In two cases, the surgeon's claim involved the entire period the patient was in the hospital and thus did not permit payment by Blue Shield of medical care fees to the original or admitting physician. And again, in the third instance, medical fees for the entire twenty-one days of in-hospital medical care provided by the Blue Shield contract were paid to another physician called in on the case.

In all three of these cases, the surgeon or consulting physician was paid by Blue Shield because their claims were received first and carried no evidence that another doctor had attended the subscriber. Had the internist



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filed his claim with Blue Shield as soon as the subscriber was discharged from the hospital, he would have received the Blue Shield fees to which he was entitled.

Still another safeguard is involved in all these cases, namely: listing on the claim blank the name of any other physician or surgeon attending the patient during that period of hospitalization. There is a place on the Medical Service Report for listing other physicians in attendance. In most instances, the initial attending doctor does give the name and address of any doctor he has called in on the case. However, very frequently the operating surgeon or other consulting physician fails to list the original attending doctor, and when their Blue Shield claims are received first, the initial attendant's Blue Shield claim cannot be paid.

All such inequities and misunderstandings can be avoided by two simple measures. The first consists of filing Blue Shield claims as soon as possible after the full service is rendered. And the second measure is the listing in the space provided for this information in the Blue Shield Medical Service Report of the name and address of each doctor who has seen the patient during that period of hospitalization. If both the originally attending physician and all other physicians called in on the case would extend this courtesy to their confrères the proper payment by Blue Shield of all such justifiable claims would be largely solved.

On October 1, 1952, the revised Blue Shield contract

and Schedule of Payments, both carrying increased benefits, became effective. Services rendered prior to October 1, 1952, are not affected by the changes. In order to avoid conflicts, every doctor is requested to submit, as soon as possible, his claims for services rendered prior to October 1, 1952.

#### BLUE SHIELD PAYMENT FOR MEDICAL-SURGICAL CARE OF MINNESOTA MEDICAL SERVICE INCORPORATED PARTICIPANT SUBSCRIBERS

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## BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

**BACTERIAL AND MYCOTIC INFECTIONS OF MAN.** Second Edition. Edited by René J. Dubos, Ph.D. The Rockefeller Institute for Medical Research. 886 pages. Illus. Price \$7.50, cloth. Philadelphia: J. B. Lippincott Co., 1952.

**VASCULAR DISEASES IN CLINICAL PRACTICE.** By Dr. Irving Sherwood Wright, M.D., Professor of Clinical Medicine, Cornell University Medical College. 2nd Edition. 552 pages. Illus. Price: \$8.50. Chicago: The Year Book Publishers, Inc., 1952.

Most books on the circulatory system devote nearly all their attention to the heart. This book confines its discussions to the anatomy, physiology, abnormalities and diseases of the blood and lymph vessels. It discusses in detail the symptoms and mechanism of those symptoms, also many special but practical diagnostic tests, and treatment of vascular diseases.

One of the best chapters is on varicose veins. Chapter X on Neurovascular Syndromes of the Shoulder Girdle is most interesting. Chapter XXIX on Industrial and Medical Legal Medicine—Its Relation to Peripheral Vascular Disease and Injury is unique. These are only

three of the thirty concise, yet comprehensive chapters containing an amazing amount of information packed into a book of this size. It is well written, is printed on excellent paper, and contains many good illustrations, some in color. Well worth the price.

LLOYD L. MERRIMAN, M.D.

## MINNESOTA ACADEMY OF MEDICINE

(Continued from Page 1150)

In regard to silk versus catgut: silk may be more hazardous, but catgut is more difficult to work with.

We have no Vitamin C level studies, but we used to use it empirically. We have abandoned it, and the hemorrhages are no more frequent.

The meeting was adjourned.

WALLACE P. RITCHIE, M.D., *Secretary*

### Meeting of April 9, 1952

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, April 9, 1952. Dinner was served at 7 p.m. and the meeting was called to order at 8 P.M. by the President: Dr O. H. Wangenstein.

There were forty-nine members and four guests present.

Minutes of the March meeting were read and approved.

Upon ballot, the following men were elected as candidates for membership in the Academy:

Dr. Leo Culligan.....Minneapolis  
Dr. Robert F. McGandy.....Minneapolis  
Dr. Richard Varco.....University of Minnesota

Dr. Wangenstein then introduced the speaker of the evening.

Dr. Richard V. Ebert, Chief of Medical Service, at the Veterans Administration Hospital, Minneapolis, gave a talk on "The Pathological Physiology of Pulmonary Emphysema." Lantern slides were shown.

The meeting was adjourned.

WALLACE P. RICHIE, M.D., *Secretary*

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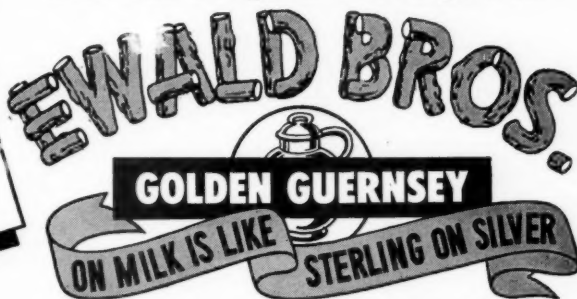
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